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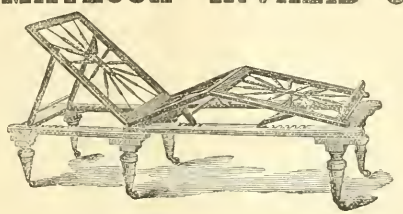

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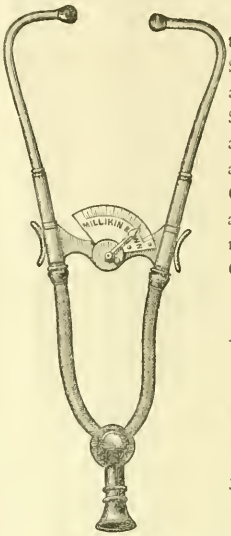

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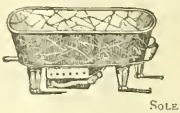

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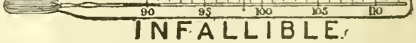

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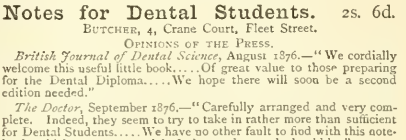

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A Manual of Midwifery for Midwives. By Fancourt Barnes, M.D.Aber., M.R.C.P.Lond., Physician to the British Lying-in Hospital, Assistant-Physician to the Royal Maternity Charity of London, Physician for the Diseases of Women to the St. George's and St. James's Dispensary. Crown 8vo, with numerous Illustrations, 6s.

LONDON: SMITH, ELDER, & CO., 15, WATERLOO PLACE.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL, Albert Embankment, London, S.E.

The WINTER SESSION of 1881-82 will commence on OCTOBER 1st, when an INTRODUCTORY ADDRESS will be delivered by Dr. BERNAYS, Ph.D., F.C.S., etc., at 3 P.M.

Two ENTRANCE SCIENCE SCHOLARSHIPS of £100 and £60 respectively, open to all First Year's Students, will be offered for competition. The examination will be held on the 5th, 6th, and 7th of October, and the subjects will be Chemistry and Physics, with either Botany or Zoology, at the option of Candidates.

Special Classes are held throughout the year for the MATRICULATION, PRELIMINARY SCIENTIFIC, and FIRST M.B. EXAMINATIONS of the University of London.

All Hospital Appointments are open to Students without extra charge. Scholarships and Money Prizes of considerable value are awarded at the Sessional Examinations, as also several Silver and Gold Medals.

The fees may be paid in one sum, or by instalments. Special entries may be made to Lectures or to Hospital Practice, and special arrangements are made for students entering in their second or subsequent years, also for dental students and for qualified practitioners.

Several Medical Practitioners and Private Families residing in the neighbourhood receive Students for residence and supervision, and a Register of inspected and approved lodgings is kept in the Secretary's Office.

Prospectuses and all particulars may be obtained from the Secretary, Dr. GILLESPIE.

W. M. ORD, M.D., Dean.

WESTMINSTER HOSPITAL MEDICAL SCHOOL. (Opposite Westminster Abbey.)

HOSPITAL STAFF.

Consulting Physician—Dr. Radcliffe.
Physicians—Dr. Fincham, Dr. Sturges, Dr. Allchin.
Assistant-Physicians—Dr. Donkin, Dr. Hall, Dr. Hughes Bennett.
Consulting-Surgeons—Mr. Barnard Holt, Mr. Holthouse.
Surgeons—Mr. Cowell, Mr. Richard Davy, Mr. Macnamara.
Assistant-Surgeons—Mr. Cooke, Mr. Bond, Mr. Pearce Gould.
Obstetric Physician—Dr. Potter.
Assistant Obstetric Physician—Dr. Grigg.
Dental Surgeon—Dr. Walker.
Aural Surgeon—Mr. Keene.
Surgeon in charge of the Eye Department—Mr. Cowell.
Surgeon in charge of the Orthopædic Department—Mr. R. Davy.
Surgeon in charge of the Skin Department—Mr. Bond.
Physician in charge of the Throat Department—Dr. de Havilland Hall.

LECTURES, ETC.

Medicine—Dr. Fincham, Dr. Sturges. Surgery—Mr. Cowell and Mr. Macnamara. Practical and Operative Surgery—Mr. R. Davy. Anatomy—Mr. Pearce Gould, M.S. Dissections—Mr. Black. Physiology and Pathology—Dr. Allchin, F.R.S.E. Practical Physiology and Histology—Mr. North, B.A. Chemistry, Practical Chemistry, and Toxicology—Dr. Dupré, F.R.S. Materia Medica and Therapeutics—Dr. Murrell. Botany—Mr. Worsley-Benison. Midwifery—Dr. Potter. Forensic Medicine and Hygiene—Mr. Bond. Psychology—Dr. Sutherland. Ophthalmic Surgery—Mr. Cowell. Orthopædic Surgery—Mr. R. Davy. Dental Surgery—Dr. Walker. Skin Diseases—Mr. Bond. Aural Surgery—Mr. Keene. Comparative Anatomy—Dr. Leslie Ogilvie. Experimental Physics—Dr. George Ogilvie. Tutors—Dr. Hall, Mr. Black.

The WINTER SESSION will commence, on October 3rd, with an Introductory Address, at 3 p.m., by Mr. BOND, after which the Prizes of the past year will be distributed.

TWO ENTRANCE SCHOLARSHIPS (next October)—Value £80 and £40 respectively. Subjects—Latin, Mathematics, French or German, and Chemistry and Natural Philosophy. The Latin books the same as the June Examination of the University of London Matriculation—Livy, Book II.

There are also—an Exhibition, value £10 10s. for first year's men; a Scholarship in Anatomy and Physiology, value £21, for second year's men; Prizes for Clinical Medicine and Surgery of £5 each; the Frederic Bird Medal and Prize, value £15; the Chadwick Prize for General Proficiency, value £21; numerous Dresserships and Clerkships; the posts of Pathologist and Curator, with 50 guineas a year; Medical and Surgical Registrar, each with £40 a year; and of House Physician (2), House-Surgeon, Resident Obstetric Assistant, Assistant House-Surgeon, Physician's Assistant, Surgeon's Assistant, Ophthalmic Assistant, and Assistant in the Skin Department.

FEES.—In one payment, £100; in two payments, £105; or in five payments, £115. There are no extras, except parts for dissection. Fees for shorter periods or for single Courses may be learned on application to the Dean. Fees for Dental Students, £50 in one sum, or 50 guineas in two payments.

Tutorial Classes, to afford special preparation for the Examining Bodies, are held four times a week. Attendance on these Classes is compulsory, and no additional charge is made.

Special Classes for the Preliminary Scientific M.B. Examination of the London University, commencing in January.

A Prospectus forwarded, and all particulars to be obtained, on application to W. H. ALLCHIN, Dean.

Westminster Hospital, S.W.

THE MIDDLESEX HOSPITAL MEDICAL SCHOOL.—The WINTER SESSION will open on Monday, October 3rd, at 3 p.m., with an Introductory Address by Dr. R. DOUGLAS POWELL, after which the Prizes awarded during the previous Winter and Summer Sessions will be distributed. The ANNUAL DINNER of the past and present Students and their friends will take place the same evening at St. James's Hall.

The Hospital contains 310 beds, and there are special departments for Cancer, Diseases of the Eye, Women, and Syphilis; also Out-Patients' Departments for Diseases of Children, the Throat, and Ear and Skin.

HOSPITAL STAFF AND LECTURERS.

Consulting Physicians—Dr. A. P. Stewart, Dr. Goodfellow, Dr. Henry Thompson, Dr. Greenhow, F.R.S.
Physicians—Dr. Cayley, Dr. Sydney Coupland, Dr. Douglas Powell
Assistant Physicians—Dr. David Finlay, Dr. J. K. Fowler, Dr. C. Y. Biss.
Obstetric Physician—Dr. J. Hall Davis.
Physician to the Skin Department—Dr. Robert Liveing.
Assistant Obstetric Physician—Dr. Arthur W. Edis.
Consulting Surgeons—Mr. Shaw, Mr. Nunn.
Surgeons—Mr. Hulke, F.R.S., Mr. George Lawson, Mr. Henry Morris.
Assistant Surgeons—Mr. Andrew Clark, Mr. Robert Lyell.
Ophthalmic Surgeon—Mr. Wm. Lang.
Aural Surgeon—Mr. Arthur Hensman.
Consulting Dental Surgeon—Mr. Tomes, F.R.S.
Dental Surgeon—Mr. Turner.
Assistant Dental Surgeon—Mr. Storer Bennett.
Other Lecturers—Mr. B. T. Lowne, Dr. Thorowgood, Mr. Foster, Mr. Henry Case.

Two Entrance Scholarships, value £25 and £20 per annum respectively, and a Science Scholarship value £50, will be competed for on September 30th and October 1st.

For further information and for a Prospectus, apply to the Dean or the Resident Medical Officer, at the Hospital.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, PADDINGTON, W.—OPEN SCHOLARSHIPS and EXHIBITIONS in NATURAL SCIENCE.—The Examinations for 1881 will be held on Monday, October 3rd, and following days. Candidates are requested to call upon the Dean at 17, Great Cumberland Place, Hyde Park, on the morning of Saturday, October 1st, between the hours of 11 and 1, and to bring with them the necessary certificates. For further particulars apply to the Registrar, at the Hospital, or to

A. B. SHEPHERD, M.D., Dean of the School.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, PADDINGTON, W.

The Introductory Lecture, by G. P. FIELD, Esq., Monday, October 3rd, 1881, at 3.30 P.M.

MEDICAL OFFICERS AND LECTURERS.

Consulting Officers—Dr. Chambers, Sir James Alderson, M.D., F.R.S., Mr. Lane, Mr. Spencer Smith, Mr. Wilde Cooper.
Physicians—Dr. Handfield Jones, F.R.S., Dr. Sieveking, Dr. Broadbent.
Physicians in Charge of Out-patients—Dr. Cheadle, Dr. Shepherd, Dr. Lees.
Surgeons—Mr. Haynes Walton, Mr. J. R. Lane, Mr. Norton.
Surgeons in Charge of Out-patients—Mr. Owen, Mr. Page, Mr. Pye.
Assistant-Surgeon—Mr. A. J. Pepper.
Physician-Accoucheur—Dr. Alfred Meadows.
Assistant Physician Accoucheur—Dr. Wiltshire.
Surgeon in charge of Ophthalmic Department—Mr. Anderson Critchett.
Aural Surgeon—Mr. Field.
Surgeon-Dentist—Mr. Hayward.
Medical Tutor—Mr. Pepper.
Other Lecturers—Dr. Wright, F.R.S., Dr. Randall, Mr. Mivart, F.R.S., Rev. J. M. Crombie, Mr. Malcolm Morris.

The course of teaching at this School ensures careful and complete preparation for all the Examining Boards, the Public Services, and the higher University Examinations. Special instruction is given to Students preparing for the examinations of the University of London.

The MEDICAL TUTOR assists the Students in their Clinical Work, and in preparing for the Final Examinations, so that the training of every individual Student is supervised. Ophthalmic, Aural, and Dental Surgery, Comparative Anatomy, Histology, and Pathology, are carefully and systematically taught both by Lectures and Practical Demonstrations. There are also Departments for the Diseases of Women and Children, of the Eye and Ear, of the Skin, and of the Throat.

SCHOLARSHIPS.

Two Scholarships of the value of £150 and £100.

These Scholarships are awarded every year by open competition in Natural Science previous to entrance at the School.

A Scholarship of £20 in Anatomy.

A Scholarship of £40 in Pathology, carrying with it the appointment of Assistant Curator.

These are awarded annually.

PRIZES.

Prizes are given in each class at the close of every Session.

APPOINTMENTS.

Three House-Surgeoncies, each tenable for one year.

A Resident Obstetric Assistantship, tenable for six months.

These Resident Medical Appointments are open to the Pupils without expense of any kind, and are equivalent to Four Scholarships of the annual value of £50.

For the Prospectus apply to

A. B. SHEPHERD, M.D., Dean of the School.

KING'S COLLEGE, LONDON.

MEDICAL DEPARTMENT.

The WINTER SESSION will be opened on MONDAY, OCTOBER 3rd, at 4 p.m., when the Distribution of Prizes will take place, and an Address be given by Sir JOHN LUBBOCK, Bart., M.P., D.C.L., F.R.S.

PROFESSORS.

Anatomy—Professor John Curnow, M.D., F.R.C.P.
Physiology and Practical Physiology—Professor Gerald F. Yeo, M.D., F.R.C.S.
Demonstrator—J. W. Grove, F.C.S.
Chemistry and Practical Chemistry—Professor C. L. Bloxam, F.C.S.
Demonstrators—J. M. Thomson, F.C.S., and G. S. Johnson, F.C.S.
Medicine (Principles and Practice of)—Prof. L. S. Beale, M.B., F.R.S.
Clinical Medicine—Professor George Johnson, M.D., F.R.S.
Surgery and Practical Surgery—Professor Henry Smith, F.R.C.S.
Demonstrators—H. Royes Bell, F.R.C.S.; W. Rose, B.S., M.B., F.R.C.S.; W. W. Cheyne, F.R.C.S., C.M.
Clinical Surgery—Professor Wood, F.R.S.; Professor Lister, F.R.S.
Botany—Professor Bentley, F.L.S.
Materia Medica and Therapeutics—Prof. E. B. Baxter, M.D., F.R.C.P.
Obstetric Medicine and the Diseases of Women and Children—Professor W. Playfair, M.D., F.R.C.P.
Forensic Medicine—Professor D. Ferrier, M.D., F.R.S.
Comparative Anatomy and Zoology—Professor F. Jeffrey Bell, M.A.
Pathological Anatomy—Professor A. B. Duffin, M.D., F.R.C.P.
Hygiene—Professor Charles Kelly, M.D., F.R.C.P.
Dental Surgery—Professor S. Hamilton Cartwright, M.R.C.S.
Ophthalmology—Professor M. M. McHardy, F.R.C.S.Ed.
Psychological Medicine—Professor Edgar Sheppard, M.D.
Dean of the Faculty—Professor Bentley, F.L.S.
Medical Tutor and Sub-Dean—N. I. C. Tirard, M.B.

PRELIMINARY SCIENTIFIC EXAMINATION OF THE UNIVERSITY OF LONDON.

Special Courses of Lectures and Practical Instruction in the Chemical, Physical, and Physiological Laboratories have been arranged for Students preparing for this Examination at the University of London during the Winter and Summer Sessions.

KING'S COLLEGE HOSPITAL.

Clinical Lectures are given daily by the Physicians and Surgeons.

Clinical Instruction is also given in Diseases of the Eye and Throat, in Skin Diseases, and in Diseases of the Ear.

Physicians—Dr. G. Johnson; Dr. L. S. Beale; Dr. Duffin; Dr. Burney Yeo; Dr. Ferrier.

Assistant Physicians—Dr. Baxter; Dr. Curnow.

Physicians for Diseases of Women and Children and Physician-Accoucheurs—Dr. W. Playfair; Dr. T. C. Hayes.

Surgeons—John Wood, F.R.S.; Joseph Lister, F.R.S.; H. Smith, F.R.C.S.; H. Royes Bell, F.R.C.S.

Assistant Surgeons—William Rose, F.R.C.S.; W. W. Cheyne, F.R.C.S.

Dental Surgeon—S. Hamilton Cartwright, M.R.C.S.

Ophthalmic Surgeon—M. M. McHardy, F.R.C.S.Ed.

Aural Surgeon—Urban Pritchard, F.R.C.S., M.D.

Pathological Registrar—A. B. Barrow, F.R.C.S.

Chloroformist—Charles Moss, M.R.C.S.

Vaccinator—R. W. Dunn, M.R.C.S.

Dental, Aural, Skin, and Throat Departments, and Wards for Children and Ophthalmic Cases, are attached to the Hospital.

The Physician's Assistant, Physician-Accoucheur's Assistant, and House Surgeons, as also their Assistants, Clinical Clerks, and Dressers, are selected by examination from among the Students, without extra fees, and have rooms and commons free.

SCHOLARSHIPS, EXHIBITIONS, REGISTRARSHIPS, AND PRIZES.

Warneford Scholarships—Students entering the Medical Department of the College in October, will have the exclusive privilege of contending for Two Scholarships of £25 per annum each, and tenable for three years. These Scholarships are given for proficiency in Divinity, Classics, Mathematics, History, English, Chemistry, Botany, and Natural Philosophy.

Five Medical Scholarships are awarded at the close of each Winter Session for proficiency in Professional Subjects, viz., one of £40 for two years, one of £30 for one year, and three of £20 for one year.

A Warneford Scholarship of £25, for two years, is also annually awarded for proficiency in Divinity, Medicine, Surgery, and Hospital Practice.

Sambrooke Registrarships: Two of £50, tenable for two years, are annually awarded to Matriculated Students of this Department.

Sambrooke Exhibitions: Two annually, one of £60 and one of £40, are awarded for proficiency in English, Mathematics, any two languages other than English, and in one or more of the following subjects—Experimental Physics, Inorganic Chemistry, Botany, and Zoology.

Daniell Scholarship: One of £20, for two years, given for proficiency in Chemistry.

Science Exhibitions: Two annually, one of £100 and one of £50, given by the Clothworkers' Company.

Endowed Prizes of the value of £25, £15, £15, £10, and £4 4s. each, and College Prizes of the value of £60, are annually awarded.

For prospectuses or other information, apply, personally or by post-card, to J. W. CUNNINGHAM, Esq., Secretary, or to Professor BENTLEY, Dean of the Department.

NORMAL SCHOOL OF SCIENCE AND ROYAL SCHOOL OF MINES, SOUTH KENSINGTON and JERMYN STREET.—The School will open on MONDAY, 3rd OCTOBER. The Prospectus may be had on application, by letter, to the Secretary, Science and Art Department, South Kensington, S.W.

THE QUEEN'S COLLEGE, BIRMINGHAM.

FACULTY OF MEDICINE.

The WINTER SESSION will COMMENCE on TUESDAY, the 4th of OCTOBER next. OPENING ADDRESS, at half-past Three o'clock, by Professor O. PEMBERTON, F.R.C.S. FEES:—The Composition Fee for all the Lectures required by the Examining Boards is Sixty Guineas, payable by two equal instalments. HOSPITAL PRACTICE:—Students can now enter to the practice of both General and Queen's Hospitals for a Single Fee.—Applications for prospectus of Medical Department to be made to the Warden, at the College; or to Professor Hinds, M.D., 10, Easy Row, Birmingham, Hon. Sec. to the Professors.

ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

Founded A.D. 1842. Beds, 200.

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Surgeons—R. Hamilton, Esq., F.R.C.S.; W. Little, Esq., M.R.C.S.; and F. T. Paul, Esq., F.R.C.S.

Senior House-Surgeon—L. W. Davies, L.R.C.P., M.R.C.S.

Junior House-Surgeons—J. M. Chisholm, M.A., M.B., C.M., M.R.C.S.; and J. T. R. Davison, M.D., C.M.

It is within a convenient distance of the Liverpool School of Medicine.

The Hospital is visited each day at One o'Clock.

Resident Pupils are received. Terms for Board, etc., £15 15s. per Quarter.

Dressers and Clinical Clerks are selected each Quarter from the Pupils of the Hospital.

The Certificates of Attendance at this Hospital are recognised by all the Licensing Bodies.

Terms for Attendance: Perpetual, for Medical and Surgical Practice, £26 5s.; One year, £19 10s.; Six Months, £7 7s.; Three Months, £4 4s.; either can be taken out separately, on payment of half of the above fees.

Further information may be obtained from the Senior House-Surgeon.

LOUIS W. DAVIES, Senior House-Surgeon.

OWENS COLLEGE, MANCHESTER.

MEDICAL DEPARTMENT.

SESSION 1881-2.

Dean of the Medical School—ARTHUR GAMGEE, M.D., F.R.S.

WINTER SESSION.

Physiology and Histology—Brackenbury Professor A. Gamgee, M.D., F.R.S.
Anatomy, Descriptive and Practical—Professor Morrison Watson, M.D., F.R.S.E.
Comparative Anatomy—Professor A. Milnes Marshall, M.A., D.Sc.
Chemistry—Professor H. E. Roscoe, Ph.D., LL.D., F.R.S.
Organic Chemistry—Professor C. Schorlemmer, F.R.S.
Clinical Medicine—Professor William Roberts, M.D., F.R.S., F.R.C.P.
Principles and Practice of Medicine—Professor John E. Morgan, M.D., F.R.C.P.
Surgery—Professor Edward Lund, F.R.C.S.; Assistant Lecturer, F. A. Southam, M.B., F.R.C.S.
Practical Surgery—Thomas Jones, M.B., B.S., F.R.C.S.
Pathology and Morbid Anatomy—Professor J. Dreschfeld, M.D., M.R.C.P.
Surgical Pathology—Alfred H. Young, M.B., F.R.C.S.

SUMMER SESSION.

Practical Physiology and Histology—Brackenbury Professor A. Gamgee, M.D., F.R.S.
Practical Anatomy—Professor Morrison Watson, M.D., F.R.S.E.
Midwifery and Diseases of Women—Professor John Thorburn, M.D., M.R.C.P.
Diseases of Children—Henry Ashby, M.D.
Materia Medica and Therapeutics—Professor D. J. Leech, M.D., M.R.C.P.
Medical Jurisprudence—C. J. Cullingworth, M.R.C.P.
Hygiene and Public Health—Arthur Ransome, M.D., M.A.
Practical Morbid Histology—Professor J. Dreschfeld, M.D., M.R.C.P.
Mental Diseases—George W. Mould, M.R.C.S.
Ophthalmology—David Little, M.D.
Operative Surgery—Thomas Jones, M.B., B.S., F.R.C.S.
Practical Chemistry—Professor H. E. Roscoe, LL.D., F.R.S.
Comparative Embryology—Professor A. Milnes Marshall, M.A., D.Sc.
Botany—Professor W. C. Williamson, F.R.S.

Prospectuses for the Session 1881-2 will be forwarded on application to the Registrar.

J. HOLME NICHOLSON, Registrar.

UNIVERSITY OF EDINBURGH.—The SESSION for 1881-82 will be opened on TUESDAY, 25th OCTOBER.

The MEDICAL CLASSES for the different Branches of Study will be opened as follows, and will meet daily (Saturdays excepted), unless otherwise specified.

Practice of Physic *(in New University Buildings, Park Place)*—Tuesday, October 25. 9 a.m. Prof. Grainger Stewart, M.D.
Chemistry—Tuesday, October 25. 10 a.m. Prof. Crum Brown, M.D.
Surgery *(in New University Buildings, Park Place)*—Tuesday, October 25. 10 a.m. Prof. Spence.
Institutes of Medicine or Physiology—Tuesday, October 25. 11 a.m. Prof. Rutherford, M.D.
Practical Physiology—Tuesday, October 25. Prof. Rutherford, M.D.
Midwifery and Diseases of Women and Children *(in New University Buildings, Park Place)*—Tuesday, October 25. 11 a.m. Prof. Simpson, M.D.
Clinical Surgery (Monday and Thursday)—Thursday, October 27. 12. Prof. Annandale, M.D.
Clinical Medicine (Tuesday and Friday)—Friday, October 28. 12 to 2. Profs. Maclagan, Grainger Stewart, and T. R. Fraser; and Prof. Simpson, on Diseases of Women.
Anatomy *(in New University Buildings, Park Place)*—Tuesday, October 25. 1 p.m. Prof. Turner, M.B.
Materia Medica—Tuesday, October 25. 2 p.m. Prof. Thomas R. Fraser, M.D.
Practical Materia Medica (including Pharmacy)—Tuesday, October 25. 10 a.m. Prof. Thomas R. Fraser, M.D.
Practical Chemistry—Tuesday, January 3. 2 p.m. Prof. Crum Brown.
Natural History—(Three Months' Course)—Prof. Sir C. Wyville Thomson.
General Pathology—Tuesday, October 25. 3 p.m. Prof. Greenfield, M.D.
Practical Pathology—Tuesday, October 25. Prof. Greenfield, M.D.
Practical Anatomy *(in New University Buildings, Park Place)*—Monday, October 3. Daily. Prof. Turner.
Anatomical Demonstrations *(in New University Buildings, Park Place)*—Tuesday, October 25. 4 p.m. Prof. Turner.
Botany (given in Summer Session)—8 a.m. Prof. Dickson, M.D.
Medical Jurisprudence (given in Summer Session)—Prof. Maclagan.
ROYAL INFIRMARY, at Noon, Daily.

WINTER AND SUMMER.

The following means are afforded for Practical Instruction :—
Practical Anatomy, in the New University Buildings, Park Place, under the Superintendence of Prof. Turner.
Anatomical Demonstrations, in the New University Buildings, Park Place, by Prof. Turner.
Anatomical Museum, under the Superintendence of Prof. Turner.
Practical Chemistry, under the Superintendence of Prof. Crum Brown.
Practical Physiology, under the Superintendence of Prof. Rutherford.
Practical Materia Medica, including Pharmacy, under the Superintendence of Prof. Thomas R. Fraser.
Morbid Anatomy and Practical Pathology, under the Superintendence of Prof. Greenfield.
Tutorial Class of Clinical Medicine in the Royal Infirmary, under the Superintendence of the Clinical Professors.
Tutorial Class of Clinical Surgery in the Infirmary, under the Superintendence of the Clinical Professor.
Obstetrical and Gynæcological Operations, under the Superinteadence of Prof. Simpson.
Chemical Laboratory, under the Superintendence of Prof. Crum Brown.
Medical Jurisprudence Laboratory, under the Superintendence of Prof. Maclagan.
Physiological Laboratory and Museum, under the Superintendeace of Prof. Rutherford.
Pathological Laboratory, under the Superintendence of Prof. Greenfield.
Natural History Laboratory, under the Superintendence of Prof. Sir C. Wyville Thomson.
Royal Botanic Garden, Herbarium, and Museum, under the Superintendence of Prof. Dickson.
Materia Medica Museum and Laboratory, under the Superintendence of Prof. Thomas R. Fraser.

WINTER.

Bandaging and Surgical Appliances, T. F. H. Spence, M.B., under the Superintendence of Prof. Spence.

SUMMER.

Practical Botany, by Prof. Dickson.
Vegetable Histology, by Prof. Dickson.
Practical Natural History, by Prof. Sir C. Wyville Thomson.
Operative Surgery, by Prof. Spence.

During the Summer Session Lectures will be given on the following subjects :—
Botany and Vegetable Histology, by Prof. Dickson.
Medical Jurisprudence, for Medical and Law Students, by Prof. Maclagan.
Anatomical Demonstrations, by Prof. Turner.
Clinical Medicine, by Profs. Maclagan, Grainger Stewart, and Thomas R. Fraser; and by Prof. Simpson on Diseases of Women.
Clinical Surgery, by Prof. Annandale.
Obstetrical and Gynæcological Operations, by Prof. Simpson.
Chemistry (Advanced Class), by Prof. Crum Brown. *[Continued.*

UNIVERSITY OF EDINBURGH.—Continued.

Medical Psychology and Mental Diseases, with Practical Instruction at the Royal Edinburgh Asylum, by the Physician Superintendent, Dr. Clouston.
Natural History, by Prof. Sir C. Wyville Thomson.

Information relative to Matriculation and the Curricula of Study for Degrees, Examinations, etc., etc., may be obtained on application at the Secretary's Office, and full details are given in the University Calendar, published by James Thin, 55, South Bridge.

By Authority of the Senatus,
August 1881. JOHN WILSON, Sec. Sen. Acad.

UNIVERSITY OF ABERDEEN.—
Chancellor.
HIS GRACE THE DUKE OF RICHMOND.
Lord Rector.
THE RIGHT HON. THE EARL OF ROSEBERY.
Vice-Chancellor and Principal.
THE VERY REV. W. R. PIRIE, D.D.

FACULTY OF MEDICINE — SESSION 1881-82.

WINTER SESSION,
Commencing on WEDNESDAY, OCTOBER 26th.

Anatomy—Professor Struthers, M.D. 11 a.m. £3 3s.
Practical Anatomy and Demonstrations—Professor Struthers and Assistant. 9 to 4, and 9 a.m. £2 2s.
Chemistry—Professor Brazier. 3 p.m. £3 3s.
Institutes of Medicine—Prof. Stirling, M.D., D.Sc. 2 p.m. £3 3s.
Surgery—Prof. Pirie, C.M., F.R.S.E. 10 a.m. £3 3s.
Materia Medica—Professor A. D. Davidson, M.D. 4 p.m. £3 3s.
Practice of Medicine—Professor Smith-Shand, M.D. 3 p.m. £3 3s.
Midwifery and Diseases of Women and Children—Professor Stephenson, M.D. 4 p.m. £3 3s.
Natural History—Professor J. Cossar Ewart, M.D., F.R.S.E. 2 p.m. £3 3s.
Medical Logic and Medical Jurisprudence—Professor Ogston, M.D. 9 a.m. £3 3s.

SUMMER SESSION,
Commencing on the first Monday of May.

Botany—Professor Jas. W. H. Trail, M.D. 8 a.m. £3 3s.
Practical Anatomy and Demonstrations—Professor Struthers and Assistant 9 to 4, and 9 a.m. £2 2s.
Practical Chemistry—Professor Brazier. 10 a.m. £3 3s.
Natural History—Professor J. Cossar Ewart. 11 a.m. £3 3s.
Practical Midwifery and Gynæcology and Clinical Diseases of Children—Professor Stephenson, M.D. 11 a.m. £2 2s.
Practical Physiology—Professor Stirling. 2 p.m. £3 3s.
Practical Natural History—Professor Cossar Ewart. 3 to 5 p.m. £2 2s.
Practical Pharmacy—Professor A. D. Davidson and Assistant. 4 p.m. £2 2s.

The Anatomical Course in Summer includes instruction in Histology and in the use of the Microscope; and instruction in Osteology for beginners.
Matriculation Fee (including all dues) for the Winter and Summer Sessions, £1. For the Summer Session alone, 10s.
Pathological Anatomy, with Demonstrations at the Hospital—in Winter, Dr. Rodger. £2 2s.
Practical Ophthalmology—Dr. A. D. Davidson. £1 1s.
Practical Toxicology—Dr. F. Ogston, jun. £1 1s.
Dental Surgery—in Summer, Mr. Williamson. £1 1s.
Royal Infirmary: Daily at noon. Perpetual Fee to Hospital Practice, £6; or, first year, £3 10s.; second year, £3.
Clinical Medicine—Drs. Smith-Shand, Beveridge, and A. Fraser. £3 3s.
Clinical Surgery—Drs. A. Ogston, Will, and Garden. £3 3s.
General Dispensary and Lying-in and Vaccine Institution: Daily, 10 a.m. Eye Institution: Daily, 2 30 p.m.
Royal Lunatic Asylum: Physician—Dr. Jamieson.

The Regulations relative to the Registration of Students of Medicine, and the Granting of Degrees in Medicine and Surgery, may be had of Professor BRAZIER, Secretary of the Faculty of Medicine.

Full information regarding the Classes and Degrees in the Faculties of Arts, Law, and Divinity, and in regard to Bursaries and Scholarships, will be found in the University Calendar, published by Messrs. WILLIE & SON, Union Street, Aberdeen. By Post, 2s. 3d.

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WINTER SESSION, 1881-82.

On 3rd October the Practical Anatomy Rooms and Chemical Laboratories will be opened.

On 24th October the Inaugural Address will be delivered by Dr. A. G. MILLER at Eleven o'clock.

On 25th October the Lectures will be commenced.

Anatomy	Practical Anatomy - - -	Mr. J. Symington.
	Course of Lectures - - -	
	Course of Demonstrations - -	
Anatomy	Practical Anatomy - - -	Mr. Charles W. Cathcart.
	Course of Lectures - - -	
	Course of Demonstrations - -	
Chemistry	Lectures - - - -	Dr. Stevenson Macadam.
	Practical Chemistry - - -	
	Analytical Chemistry - -	
Chemistry	Lectures - - - -	Mr. J. Falconer King.
	Practical Chemistry - - -	
	Analytical Chemistry - -	
Chemistry	Practical Chemistry - - -	Mr. Ivison Macadam.
	Analytical Chemistry - -	
Chemistry	Lectures - - - -	Dr. Drinkwater.
	Practical Chemistry - - -	
	Analytical Chemistry - -	
Chemistry	Lectures - - - -	Mr. J. Y. Buchanan.
	Practical Chemistry - - -	
	Analytical Chemistry - -	
Practice of Physic - - - - -		Dr. John Wyllie.
Practice of Physic - - - - -		Dr. J. O. Affleck.
Practice of Physic - - - - -		Dr. Byrom Bramwell.
Pathology and Morbid Anatomy - -		Dr. Bryan Charles Waller.
General Pathology - - - -		Dr. J. B. Buist.
Systematic Pathology - - - -		Dr. D. J. Hamilton.
Practical Pathology - - - -		
Surgery - - - - - - -		Dr. P. Heron Watson.
Surgery - - - - - - -		Mr. Chiene.
Surgery - - - - - - -		Mr. Duncan.
Surgery - - - - - - -		Dr. A. G. Miller.
Midwifery and Diseases of Women and Children - - - - - -		Dr. Angus Macdonald.
Midwifery and Diseases of Women and Children - - - - - -		Dr. Charles Bell.
Institutes of Medicine - - - -		Dr. James.
Institutes of Medicine - - - -		Mr. James Hunter.
Royal Infirmary - - - - -		
Clinical Medicine - - - -		Drs. George W. Balfour, Claud Muirhead and Brakenridge. Dr. Angus Macdonald. *(For Diseases of Women.)*
,, ,, Tutorial Class for Physical Diagnosis.*		
Clinical Surgery. - - - - - -		Mr. Joseph Bell.
,, ,, Tutorial Class for Practical Surgery.*		
Medical Jurisprudence and Public Health		Dr. Littlejohn.
Materia Medica and Therapeutics -		Dr. Francis W. Moinet.
Materia Medica and Therapeutics -		
Practical Materia Medica, including Practical Pharmacy - - - - -		Dr. William Craig.
Natural History—Zoology and Comparative Anatomy - - - - -		Dr. Andrew Wilson.
Diseases of the Ear - - - - -		Dr. Kirk Duncanson.
Diseases of the Eye - - - - -		Dr. John Robertson.
Vaccination - - - - -		Dr. Husband.
Diseases of Children - - - - -		Dr. James Andrew.
Diseases of Children - - - - -		Dr. James Carmichael.
Practical Midwifery - - - - -		Dr. Angus Macdonald.
Practical Gynæcology - - - - -		Dr. Halliday Croom.
Practical Midwifery - - - - -		Dr. Charles Bell.

* Under the Superintendence of the Lecturers on Clinical Medicine and Surgery.

SUMMER SESSION, 1882.

On 1st May, Classes will commence in Practical Anatomy and Demonstrations, Practical and Analytical Chemistry, Materia Medica and Therapeutics, Practical Materia Medica including Practical Pharmacy, Midwifery and Diseases of Women and Children, Medical Jurisprudence and Public Health, Clinical Medicine, Clinical Surgery, Practical Physiology, Practical Pathology, Natural History (Zoology and Comparative Anatomy), Diseases of the Eye, Practical Medicine and Diagnosis, Medical Anatomy and Physical Diagnosis, Diseases of the Ear, Vaccination, Diseases of Children, Insanity, Diseases of the Skin, Operative and Practical Surgery, and Practical Midwifery.

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A detailed Prospectus of the Classes will be forwarded on application to the Secretary, whose address is Surgeons' Hall, Edinburgh.

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NOTICE IS HEREBY GIVEN, That the PRELIMINARY EXAMINATIONS in GENERAL EDUCATION by the ROYAL COLLEGES of PHYSICIANS and SURGEONS of EDINBURGH, during the Session 1881-82, will be held on the following days:—SATURDAY, October 15th, and MONDAY, October 17th, 1881; TUESDAY, April 11th, WEDNESDAY, April 12th, and THURSDAY, April 13th, 1882; and FRIDAY, July 7th, SATURDAY, July 8th, and MONDAY, July 10th, 1882.

The Examinations begin in October 1881 at 12 o'clock, and in April and July 1882 at 1 p.m.

Intending Students of Medicine are reminded that they are required to pass the above Examination, or one of those recognised by the General Medical Council as equivalent to it, before they can be registered as Medical Students.

Information as to the Subjects of Examination and Books prescribed, will be obtained by application to the Officer of either College.

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President of Roy. Coll. Phys.
FRANCIS BRODIE IMLACH,
President Roy. Coll. Surgeons.

September 1881.

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Consulting Surgeons—S. G. Wilmot, Fellow and Ex-President of the Royal College of Surgeons; G. H. Porter, Fellow and Ex-President of the Royal College of Surgeons, Surgeon in Ordinary to the Queen in Ireland.

Physicians—H. C. Tweedy, M.D. Dub. Univ., Fellow and Examiner R.C.S.I.; R. A. Hayes, M.D. Dub. Univ., F.R.C.S.I., Physician for Diseases of the Throat, National Eye and Ear Infirmary.

Surgeons—W. Colles, Fellow and Ex-President R.C.S.I., Regius Professor of Surgery T.C.D., Surgeon in Ordinary to the Queen in Ireland; E. Hamilton, M.D. Dub. Univ., Ex-President R.C.S.I., Consulting Surgeon Dublin Orthopædic Hospital; R. M'Donnell, M.D., F.R.S., Fellow and Ex-President R.C.S.I., Consulting Surgeon Dublin Orthopædic Hospital.

Resident Surgeon—T. Myles, M.B., B.Ch., Dub. Univ.

Surgeon-Dentist—J. A. Baker, F.R.C.S.I.

Obstetric Physician—A. Duke, Member and L.M., K.Q.C.P.I., Ex-Assistant-Physician Rotunda Hospital.

The Medical School formerly attached to the Hospital having been discontinued, the Medical Officers have determined to devote all their energies to the advancement of Clinical Instruction, and to render it thoroughly practical; for the attainment of which object this Hospital affords exceptional advantages. Owing to its position, there is always a large number of casualties under treatment in this Institution, while there are to be found occupying its beds at all times numerous cases of every description of Acute and Chronic Medical and Surgical Disease. There is a Ward entirely devoted to Syphilitic Disease, and a detached building for fever cases. There is an extensive Out-Patient Department, with separate Clinics for Diseases of the Skin, Throat, Teeth, and those peculiar to Women.

In order to promote actual bedside observation by the Students attending this Hospital, arrangements have been made that each Pupil shall be assigned one or more beds (without interfering with the privileges of Resident Clinical Assistants), for the care of which he will be responsible; and he will be expected to keep accurate notes of the cases occupying his bed or beds. Every opportunity will be afforded to the Students to become thoroughly familiar with the modern appliances used in the diagnosis and treatment of disease. At the end of each Hospital year Gold Medals will be awarded for general attention and proficiency in clinical work and case-taking.

The Hospital, which contains 250 beds, and is provided with distinct Wards for the treatment of Fevers and Syphilis, is visited daily, at 8½ a.m., by the Resident Surgeon, and at 9 a.m., by the Physicians and Surgeons. The Surgical Wards are also visited each evening.

Clinical Lectures are given by the Physicians and Surgeons during the Session.

Surgical Operations are performed on Saturdays, at 10 a.m., except in cases of emergency.

There is accommodation in the Hospital for two Medical and six Surgical Resident Clinical Assistants.

The Museum, which is open daily to the Pupils of the Hospital, contains valuable Preparations, comprising Human and Comparative Anatomy, Physiology and Pathology, including some specimens almost unique, and a collection of Drugs used in Pharmacy.

There is also a Lending Library, containing every modern Medical and Surgical Work.

The Apothecary, Mr. M'CARTHY, gives Instruction in Practical Pharmacy.

FEES.—Hospital Practice: Nine months, £12 12s; Six months, £8 8s.; Three months, £5 5s. Dressership: Winter, Six months, £21; Summer ditto, £15 15.

The Session commences on the First Monday in October.

A Prospectus and particulars may be obtained from the Resident Surgeon, at the Hospital, or from RICHARD A. HAYES, M.D., Hon. Secretary, 32, Merrion Square South, Dublin.

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Practice of Medicine—James Cuming, M.A., M.D., F.K.Q.C.P.
Practice of Surgery—Alexander Gordon, M.D.
Materia Medica—J. S. Reid, M.D.
Midwifery—R. F. Dill, M.D.
Medical Jurisprudence—J. F. Hodges, M.D., F.C.S.
Natural Philosophy—Joseph Everett, A.M., D.C.L., F.R.S.
Zoology and Botany—Robert O. Cunningham, M.D., F.L.S.

The Lectures of the Winter Session of 1881-82 will commence on Tuesday, November 1st. The Lectures on Botany, Midwifery, and Medical Jurisprudence, and the Summer Courses of Practical Chemistry and Experimental Physics, will commence on May 1st, 1882.

The Anatomical Rooms are open for the whole day, and Students are aided in their Dissections by the Professor of Anatomy, and the Demonstrator.

The examinations for Medical Scholarships, tenable for one year, and of which two are awarded to Students of each year of the Medical course, will commence on October 20th.

FEES.—Anatomy and Physiology—1st course, £3; each subsequent course, £2. Demonstrations and Practical Anatomy—each course, £3. Practical Chemistry, £3. Other Medical Lectures—1st Course, £2: each subsequent course, £1.—BELFAST ROYAL HOSPITAL. Clinical Fees, a Winter Session, £5 5s.; a Summer Session, £2 2s.; perpetual Fee, payable in two instalments, £10 10s. Hospital Fee, half a guinea for each Winter or Summer Session.—LYING-IN-HOSPITAL. Fee for six months, £2 2s.

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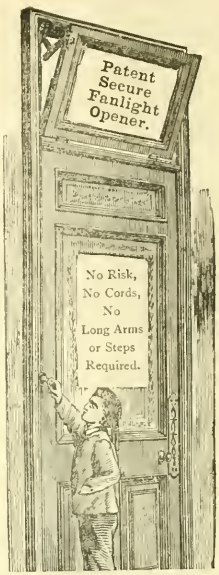

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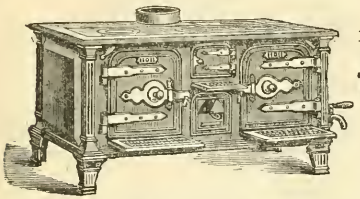

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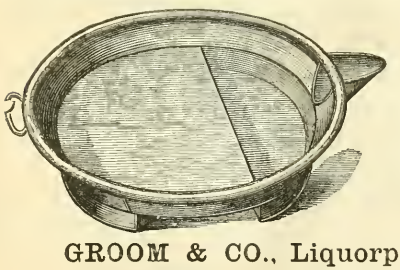

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Silica	0.60
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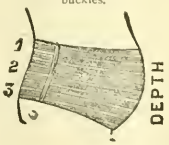

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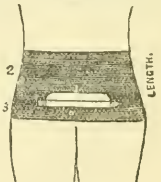

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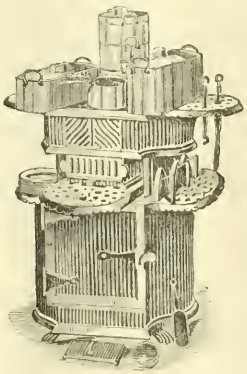

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TREATMENT OF NEURALGIA—Letter from **Mr. METCALF JOHNSON.**

[*To the Editor of* '*THE MEDICAL TIMES AND GAZETTE*'.]

'SIR,—May I ask you to lay before your readers the following results of my experience in the treatment of Neuralgia, which is to my mind so likely to afford relief to suffering humanity that I do not feel justified in witholding it? The treatment consists in painting the part affected with ANODYNE AMYL COLLOID, prepared by Messrs. FERRIS & Co., Druggists, of Bristol, and in the exhibition of a remedy composed of the Tincture of Gelseminum and Tincture of Guarana. The following cases of relief will be my justification for offering advice to use a prescription of a somewhat secret nature:—

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'Lancaster, *May* 1878.' 'Yours, etc., METCALF JOHNSON.'

[*From* '*THE MEDICAL RECORD*', *London, May* 15, 1880.]

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THE LONDON

MEDICAL RECORD.

SEPTEMBER 15, 1881.

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The London Medical Record.

GREAT BRITAIN AND IRELAND.

MEDICAL QUALIFICATIONS.

THE number of examining bodies in the United Kingdom which grant degrees and diplomas capable of registration under the Medical Act of 1858 is nineteen. The registrable qualifications obtainable from them are as follows.

1. *Royal College of Physicians of London:* Diplomas of Licentiate, Member, and Fellow.
2. *Royal College of Surgeons of England:* Diplomas of Member and Fellow.
3. *Apothecaries' Society of London:* Licence.
4. *University of Oxford:* Degrees of Bachelor and Doctor of Medicine.
5. *University of Cambridge:* Degrees of Bachelor and Doctor of Medicine, and Master in Surgery.
6. *University of London:* Degrees of Bachelor of Medicine, Doctor of Medicine, Bachelor of Surgery, and Master in Surgery.
7. *University of Durham:* Licences in Medicine and in Surgery; Degrees of Bachelor of Medicine, Doctor of Medicine, Bachelor of Surgery, and Master in Surgery.
8. *Royal College of Physicians of Edinburgh:* Diplomas of Licentiate, Member, and Fellow.
9. *Royal College of Surgeons of Edinburgh:* Diplomas of Licentiate and Fellow.
10. *Faculty of Physicians and Surgeons of Glasgow:* Diplomas of Licentiate and Fellow.
11. *University of Aberdeen:* Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
12. *University of Edinburgh:* Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
13. *University of Glasgow:* Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
14. *University of St. Andrew's:* Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
15. *King and Queen's College of Physicians in Ireland:* Diplomas of Member, Licentiate, Fellow, and Licentiate in Midwifery.
16. *Royal College of Surgeons of Ireland:* Diplomas of Licentiate and Fellow.
17. *Apothecaries' Hall of Ireland:* Licence.
18. *University of Dublin:* Licences in Medicine and in Surgery; Degrees of Bachelor of Medicine, Doctor of Medicine, Bachelor in Surgery, Master in Surgery.
19. *Queen's University in Ireland:* Degrees of Doctor of Medicine and Master in Surgery; and Licence in Surgery.

In addition, the Royal Colleges of Surgeons and the Faculty of Physicians and Surgeons of Glasgow grant licences in Dental Surgery, which are registrable under the Dentists' Act.

Certificates and diplomas in State Medicine and Public Health (which at present are not registrable) are conferred after examination by the Universities of Cambridge, London, Durham, Edinburgh, Glasgow, and Dublin; and by the Royal College of Physicians in Edinburgh.

The following is a general summary of the conditions required on the part of candidates for examination; but, for further details, our readers must consult the regulations issued yearly in the Students' numbers of our contemporaries; or apply to the officers of the respective Universities, Colleges, and Halls.

The regulations of the Examining Bodies are, with very few exceptions, framed in accordance with the Resolutions and Recommendations of the General Medical Council.

Every medical student is required to be registered at the office of the General Medical Council; prior to which he must have passed an examination in subjects of general education. As evidence of this are recognised:—1. The possession of a degree in Arts of an University of the United Kingdom or of the Colonies, or of some University recognised by the Medical Council; 2. A certificate of having passed an examination in subjects of general education conducted by some one or other of the educational bodies, a list of which is given with the 'Recommendations of the General Medical Council'. The Medical Council recommends that no such certificate should be accepted by any of the licensing boards, unless it testify that the candidate has been examined in the following subjects: 1. The English language, including Grammar and Composition; 2. Arithmetic, including Vulgar and Decimal Fractions, and Algebra, including Simple Equations; 3. Geometry—the first two books of Euclid, or the substance thereof; 4. Latin, including Translation and Grammar; 5. One of the following subjects at the option of the candidate: Greek; French; German; Elementary Mechanics of Solids or Fluids, meaning thereby Mechanics, Hydrostatics, Pneumatics, and Hydraulics. [On and after January 1, 1882, the following subjects will be required: 1. English Language, including Grammar and Composition; 2. English History; 3. Modern Geography; 4. Latin, including Translation from the Original, and Grammar; 5. Elements of Mathematics, comprising (*a*) Arithmetic, including Vulgar and Decimal Fractions; (*b*) Algebra, including Simple Equations; (*c*) Geometry, including the first two books of Euclid, or the subjects thereof; 6. Elementary Mechanics of Solids and Fluids, comprising the Elements of Statics, Dynamics, and Hydrostatics (this subject may be passed either as preliminary, or before, or at the first professional examination); 7. One of the following optional subjects: (*a*) Greek, (*b*) French; (*c*) German; (*d*) Italian; (*e*) Any other modern language; (*f*) Logic; (*g*) Botany; (*h*) Elementary Chemistry.] The preliminary examination having been passed, the student should at once register, as the commencement of the course of professional study is not recognised as dating fifteen days earlier than the date of registration. Forms for registration are supplied by the licensing bodies and at the schools and hospitals.

After passing the preliminary examination, the student may commence his medical education in one of the following ways (according to the regulations of the Licensing body with which he intends to become connected): 1. By attendance for one year on the practice of a provincial hospital or other public institution recognised for this purpose; 2. As the pupil, for one year, of a legally qualified surgeon

holding sufficient public appointments to afford such opportunities of practical instruction as shall be satisfactory to the authorities; 3. By entering at once at a recognised medical school.

The minimum period of medical study required is forty-five months from the date of registration as a student, of which time at least two years and a half must be passed at a recognised medical school. For the degrees of the Universities (except that of London) the candidate is required to spend a portion of the time of medical study at the University which grants the degree, or at a College in connection therewith.

To obtain a degree, diploma, or licence, two examinations at least in professional subjects must be passed; first in the elementary subjects—Chemistry, Anatomy, Physiology, and Materia Medica; and afterwards in the practical subjects. The final examination, which must not be passed until the completion of the fourth year of study, comprises:—1. Pathology (including Morbid Anatomy); 2. Medicine (including Medical Anatomy, Clinical Medicine, and Therapeutics); 3. Surgery (including Surgical Anatomy and Clinical Surgery); 4. Midwifery; 5. Forensic Medicine.

INSTRUCTION IN THE MEDICAL SCHOOLS.

The medical schools in London are those of St. Bartholomew's, Charing Cross, St. George's, Guy's, the London, St. Mary's, the Middlesex, St. Thomas's, and Westminster Hospitals; and the Medical Faculties of King's and University Colleges. To these may be added the London School of Medicine for Women, with which the Royal Free Hospital is connected for the purpose of clinical instruction, and Mr. Thomas Cooke's School of Anatomy and Surgery.

In the provinces in England, there are the medical departments of Queen's College, Birmingham, Owens College, Manchester, and the Medical College of the University of Durham, at Newcastle-on-Tyne; the Medical School affiliated to University College, Bristol: the Medical Faculty of University College, Liverpool; together with medical schools at Leeds and Sheffield. The Universities of Oxford and Cambridge do not profess to give a complete education; in fact, there is no medical school at Oxford; but instruction in many branches is provided for at Cambridge.

In Scotland, the medical schools in which a complete course of professional education is given, are those attached to the Universities of Aberdeen, Edinburgh, and Glasgow, the Extra-Academical School in Edinburgh, and the Anderson's College and the Royal Infirmary School of Medicine in Glasgow.

In Ireland, the medical schools are, the School of Physic in Ireland, the School of the Royal College of Surgeons of Ireland, and the Colleges at Belfast, Cork, and Galway, in connection with the Queen's University in Ireland. There are also several medical schools in Dublin: viz., the Carmichael College of Medicine and Surgery; the Catholic University, and the Ledwich School of Anatomy, Medicine and Surgery.

For information regarding these institutions reference must, as we have already said, be made to the published prospectuses. We shall, however, endeavour to classify a part of the information therein contained under certain heads, viz., Clinical Instruction; Practical Surgery; Special Departments; Practical Physiology; Hospital Appointments; Tutorial Instruction; and Scholarships, Exhibitions, and Prizes.

CLINICAL INSTRUCTION.—At all the hospitals connected with medical schools the physicians and surgeons deliver, at stated intervals, lectures on the cases under their care, in addition to making comments during their visits to the wards or in the operating theatre. In some instances, special provision is also made by the appointment of one or more of the hospital staff as clinical professors or lecturers; and in several of the hospitals a certain number of beds are specially devoted to the purpose of clinical instruction. At Guy's Hospital, forty patients are set aside in the medical wards, and are visited and their cases lectured on by the physicians in the winter, and by the assistant-physicians in the summer session: the surgeons also select cases for clinical instruction. A similar arrangement exists at the London Hospital, where two wards are devoted to the express purpose of teaching clinical medicine; the cases being lectured on by the physicians in the winter, and by the physicians or assistant-physicians in the summer. Special clinical professorships in medicine and surgery, in addition to the ordinary clinical lectures given by the physicians and surgeons, exist at the King's and University College Hospitals. In the former, the professor of clinical medicine is Dr. George Johnson, and the professors of clinical surgery are Mr. John Wood and Mr. Lister. In University College Hospital there are two special chairs, known as the 'Holme Professorships' of Clinical Medicine and Surgery. The Holme professor of clinical medicine is Dr. Wilson Fox, who delivers clinical lectures on Tuesdays and Thursdays on the significance of the general signs of disease, and on the special modes of examination, diagnosis, and treatment of individual cases. There are also two assistant teachers of clinical medicine, Dr. Gowers and Dr. Barlow, who hold classes for instruction in physical examination, the investigation of diseases of the circulatory, respiratory, and nervous systems, the examination of the urine, etc. The Holme professor of clinical surgery, Mr. Christopher Heath, gives a clinical lecture once a week, and also holds a weekly clinical examination on surgical cases in the operating theatre; these examinations, while open to the whole class, being specially intended for the instruction of the senior students. Mr. Marcus Beck and Mr. A. E. Barker are assistant-professors of clinical surgery. A special course of lectures on Clinical Surgery has been established at St. Thomas's Hospital, the lecturer being Mr. John Croft. In Cambridge, clinical instruction in medicine and surgery is given at Addenbrooke's Hospital throughout the year. At Leeds, clinical classes meet at appointed hours to receive instruction in the wards from the physicians. In the Liverpool Royal Infirmary, Dr. Glynn, one of the physicians, gives, once a week during the winter, practical instruction in clinical medicine and the methods of physical diagnosis. In the Owens College, Manchester, there is a special professorship of clinical medicine, held by Dr. William Roberts. A medical and a surgical clinical lecture are given every week in the Manchester Royal Infirmary. Medical and Surgical Ward Classes are formed by the members of the Infirmary staff at each of the trimestral periods, commencing with October, January, and May. In the Infirmaries of Aberdeen, Edinburgh, and Glasgow, clinical lectures on medi-

cine, surgery, and midwifery are delivered by the medical staff of each institution. The Universities of Edinburgh and Glasgow have special professors of Clinical Medicine and Surgery. In the medical schools of Ireland, clinical courses are given through the session.

In connection with the subject of Clinical Instruction, reference must be made to means provided at several hospitals for the special purpose of training the students in the observation of cases. At the Charing Cross Hospital, practical instruction in auscultation, in health and in disease, is given once a week by Dr. R. Smith; while Dr. Houghton instructs in case-taking. In Guy's Hospital, the ward clerks (of whom 150 or more are appointed during the year) are assisted in the examination of cases and the preparation of reports by the medical and surgical registrars, who also instruct them in physical diagnosis and in chemical and microscopical investigation. Similarly, at the London Hospital, the clinical clerks and dressers are assisted by the house-physicians and house-surgeons. At several of the medical schools there are medical tutors, who instruct the students in the physical examination and systematic description of cases. The provision made at University College Hospital has been referred to above. Classes for medical demonstration are held in the Manchester Royal Infirmary twice weekly during the summer by two of the medical officers; in which classes instruction is given in anatomy as applied to medicine, in physical and chemical examination, etc. In the University of Edinburgh, a class for instruction in clinical medicine is held in the wards of the Royal Infirmary by the clinical tutor.

PRACTICAL SURGERY.—At most of the schools, special provision is made for instruction in this important branch of medical education. The courses embrace such subjects as—the application of anatomy to surgery on the living person or the dead body; the methods of proceeding, and the manipulations necessary, in order to detect the effects of diseases and accidents; the performance of operations on the dead body; the use of surgical apparatus; the examination of diseased structures, as illustrated by preparations and recent specimens. The course of practical instruction is generally distinct from that of systematic surgery, and is in many instances given in the summer session. In the Liverpool School of Medicine, the lectures on Systematic Surgery are given thrice weekly, and there is a concurrent course of Practical Surgery twice weekly; besides which, a course of Operative Surgery is given in the summer.

SPECIAL DEPARTMENTS.—Due provision is made for instruction in *Midwifery*, so as to enable students to meet the requirements of the examining bodies; but we do not call to mind any arrangement in any of the schools demanding special notice.

Ophthalmic Surgery is taught by lectures and observation of cases at all the London schools; each hospital receiving ophthalmic patients except the Charing Cross, the pupils of which are admitted to the practice of the Royal Westminster Ophthalmic Hospital. As far as can be gathered from the prospectuses, the material available for the practical teaching of this subject (as far as regards in-patients) is as follows: St. Bartholomew's Hospital, 26 beds; Charing Cross (Royal Westminster Ophthalmic Hospital), 50 beds; Guy's Hospital, 50 beds (also about 3,000 out-patients, and an average of more than 1800 operations); London Hospital, 12 beds. The other hospitals have beds for ophthalmic cases, but the number is not stated. Among the provincial schools, those of the Universities and at Newcastle-on-Tyne are the only ones in which there is no special department for teaching ophthalmic surgery. In the Universities of Aberdeen and Glasgow instruction in ophthalmic surgery is given; and the students are admitted to see the practice of ophthalmic institutions in those cities. In the Extra-academical School of Edinburgh, and in Anderson's College and the Royal Infirmary School of Medicine in Glasgow, courses of lectures on the subject are given. In Ireland, provision is made for the teaching of ophthalmic surgery in most of the medical schools in Dublin.

Aural Surgery is taught as a special branch at all the London medical schools, and at the Leeds School of Medicine and the Bristol and Manchester Royal Infirmaries among the provincial schools; also in the Extra-academical School in Edinburgh, and in Glasgow Royal Infirmary School of Medicine.

Diseases of the Throat.—Special instruction in the diagnosis and treatment of diseases of the throat and larynx, and the use of the laryngoscope, is given at St. Bartholomew's Hospital by Mr. Butlin; at the Charing Cross Hospital by Mr. J. H. Morgan; at St. George's Hospital by Dr. Whipham; at King's College Hospital by Dr. Baxter; at the London Hospital by Dr. Morell Mackenzie, who delivers a course of lectures on the subject; at St. Mary's Hospital by Mr. Norton; at the Middlesex Hospital by Mr. Hensman (with Diseases of the Ear); at University College Hospital by Dr. Poore; at the Westminster Hospital by Dr. De Havilland Hall; at the Bristol Royal Infirmary by Mr. Harsant; at the Manchester Royal Infirmary by Dr. H. Simpson; and in the Glasgow Royal Infirmary by Dr. E. Watson.

Diseases of the Skin.—For the teaching of this important department of medicine, special provision is made in all the London Hospitals, in the Bristol General Hospital, and in the Manchester Royal Infirmary. Demonstrations of cases, and clinical lectures, are given at stated intervals, generally once a week. In University College Hospital, Dr. Radcliffe Crocker, the physician in this department, gives clinical lectures on diseases of the skin once a fortnight. A course of lectures is given in the Edinburgh Extra-academical School. In Dublin, a course of instruction on diseases of the skin is given at the Adelaide Hospital.

Orthopædic Surgery is taught at St. Bartholomew's Hospital by Mr. Howard Marsh; at St. George's Hospital by Mr. W. H. Bennett; and at the Westminster Hospital by Mr. Richard Davy. Mr. Hardie gives instruction on this subject at the Manchester Royal Infirmary.

Mental Diseases. — Lectures on Psychological Medicine are delivered as a separate course in most of the London schools. Special arrangements for clinical instruction are made in several instances; thus the students of St. Bartholomew's Hospital have access to a large public asylum; those of Guy's Hospital are admitted to Bethlem Hospital, and those of the London Hospital to Bethnal House. Two students of the London Schools, qualified to practise, are appointed for six months as resident clinical assistants in Bethlem Hospital. At the Leeds School of Medicine, the students attend the West Riding Lunatic Asylum at Wakefield, where Dr. Major, the Medical Director, gives clinical lectures in addition to a course of systematic lectures at the school. In

Manchester, a course of clinical lectures on mental diseases is given to senior students of Owens College by Mr. G. W. Mould, at the Asylum in Cheadle. At the Newcastle-on-Tyne College, instruction in psychological medicine is given by Mr. Wickham, medical superintendent of Coxlodge Asylum. In the University of Edinburgh, Dr. Clouston gives a course of Medical Psychology and Mental Diseases, with practical instruction at the Morningside Asylum. In the Extra-academical School, a similar course is delivered by Dr. Batty Tuke. In the Glasgow Royal Infirmary School of Medicine, a course of lectures on Mental Diseases is given by Dr. A. Robertson, in the City Parochial Asylum. In Dublin, special courses of lectures on mental diseases are given in the Richmond, Whitworth, and Hardwicke Hospitals, adjoining which is a large asylum containing over 1,000 patients. The lectures on psychological medicine are mostly delivered during the summer session.

Public Health.—Special courses of lectures on this subject are given at St. Bartholomew's, Charing Cross, Guy's, the Middlesex, and St. Thomas's Hospitals, and at King's College. At St. George's Hospital, it is included in the Course of Medicine; and at the London, St. Mary's, and Westminster Hospitals, in that on Forensic Medicine. In University College, besides the lectures, instruction in the chemical and microscopic examination of air, water, and food, is given in the hygienic laboratory. In most of the provincial schools, the subject is included in the lectures on Forensic Medicine. In Owens College, Manchester, lectures on Hygiene are delivered by Dr. Ransome. In the Sheffield Medical School, a course of lectures is given by Dr. Drew, and in the Newcastle College of Medicine by Dr. Armstrong. In Scotland, also, the instruction in Public Health is given in connection with that on Medical Jurisprudence. In Dublin, there is a professorship of Hygiene in the school of the Royal College of Surgeons.

PRACTICAL PHYSIOLOGY.—This subject is taught in most of the schools: but more elaborate provision is made in some cases than in others.

At *St. Bartholomew's Hospital*, the course is conducted by a demonstrator and two assistant demonstrators under the superintendence of the lecturers on Physiology and Chemistry. Dr. Klein gives a course of lectures on General Histology, with demonstrations, which form part of the course on General Anatomy and Physiology.

At *Guy's Hospital*, Mr. Golding-Bird gives a course of Histological demonstrations of the elementary tissues and the chief organs of the body, with their behaviour and re-agents, as studied with the microscope. The course includes about thirty-five demonstrations, and is gone through twice in the winter session. A laboratory class in Practical Physiology, intended for advanced students, is held by Dr. Pye-Smith in the summer.

At *University College*, instruction in Practical Physiology is given by Dr. Burdon Sanderson (Jodrell Professor of Physiology) and Mr. Schäfer (Assistant Professor of Physiology). The course of Practical Physiology and Histology consists of practical lessons in Histology and the use of the Microscope, and in Chemical Physiology. Practical demonstrations relating to the mechanism of circulation and respiration, and the vital properties of the tissues, are given in the laboratory.—A course of lectures on Embryology will be given during the winter session by the Assistant Professor of Physiology. In addition, a series of practical lessons on development will be given to those who have been through the course of Practical Histology.—Persons desirous of engaging in original investigation in Physiology and Histology may be admitted to the laboratory as workers on the nomination of the Jodrell Professor. An advanced course of practical Physiology, specially adapted to meet the requirements of candidates for the first M.B. honours and the second B.Sc. Examinations of the University of London, will be given after Christmas.

At the *Westminster Hospital*, a course of lectures and demonstrations will be given by Mr. North. The course will consist of three parts:—1. Thirty lectures and demonstrations in the Histology of the Simple Normal Tissues, delivered during May, June, and July; 2. Thirty lectures and demonstrations on the Histology of the Normal Organs and Viscera, delivered in October, November, and December; 3. A course of about twelve demonstrations on Physiological Chemistry.

In *Owens College, Manchester*, a very complete course of practical Physiology is conducted during the year by Dr. Arthur Gamgee, the Brackenbury Professor of Physiology. The class meets daily, except Saturdays, for systematic work in Practical Histology and Physiological Chemistry, and for demonstrations in Experimental Physiology. The Physiological Laboratory is open daily during the winter and summer sessions.

Practical Physiology is taught in the University of Edinburgh, by Professor Rutherford; in that of Aberdeen, by Professor Stirling; and in that of Glasgow, by Professor Fleming. Courses are also given in the Edinburgh Extra-Academical School, and in the Glasgow Royal Infirmary School of Medicine and in Anderson's College.

HOSPITAL APPOINTMENTS.—Numerous appointments at the hospitals are open to the diligent student, without payment (except in the few cases hereinafter noticed) of any fee. For the resident appointments, a qualification to practise is required; and, in some instances, a salary is paid in addition to the provision of rooms and board.

At *St. Bartholomew's Hospital*, four house-physicians and four house-surgeons are appointed annually. A resident midwifery assistant is appointed every six months; an ophthalmic house-surgeon is also appointed for six months, and may be re-elected. An assistant-chloroformist is appointed annually. Each of these officers is provided with rooms by the hospital authorities, and receives an annual salary of £25. Clinical clerks to the medical in-patients, and to the physician-accoucheur, also clerks and dressers for the out-patient and special departments, are chosen from among the students. Thirty-two dressers for the surgical in-patients and the surgical casualty department are selected each year; and other in-patient dresserships may be obtained on payment of £10 10s. for three months, or £16 16s. for six months.

At *Charing Cross Hospital*, a medical and a surgical registrar are appointed, each with a salary of £40 a year. A resident medical officer and a resident surgical officer are selected by competitive examination every six months from candidates qualified to practise. A resident obstetrical officer, assistant medical officer, and assistant surgical officer, are appointed every six months, after examination, preference in each case being given to a legally

qualified man. The clinical clerks—three to each physician and two to each assistant-physician, and the dressers—three to each surgeon and assistant-surgeon, and also two clinical clerks to the physician-accoucheur, are appointed for periods of four months. Pathological assistants, who assist at the *post mortem* examinations, are appointed each month for four months.

At *St. George's Hospital*, house-physicians and house-surgeons are appointed half-yearly from among the perpetual pupils. The appointments are held for twelve months, with board and residence in the hospital free of expense. Each pays a deposit of 50 guineas, which is returned if the duties of his office have been satisfactorily performed. A curator of the Pathological Museum and a medical and a surgical registrar, each with a salary of £50; an ophthalmic registrar and a microscopic pathologist, each with a salary of £25; and an obstetric assistant, with board, residence, and a salary of £100, are appointed annually. An assistant house-physician, an assistant house-surgeon, an ophthalmic assistant, two assistant medical registrars, and an assistant surgical registrar, are appointed every six months. Clinical clerks and dressers are also appointed.

At *Guy's Hospital*, there are appointed during the year 6 senior and 6 junior house-physicians, 6 senior and 6 junior house-surgeons, 12 senior and 12 junior obstetric residents, 24 surgeons' dressers, 18 clinical assistants, 18 dressers in the eye wards, 24 *post mortem* clerks, 24 obstetric out-patient clerks, 32 assistant physicians' clerks, 12 dental surgeons' dressers, 12 aural surgeons' dressers, 64 medical clinical clerks, 72 or more assistant-surgeons' dressers and dressers in the surgery, 12 obstetric ward clerks, 80 surgical clinical clerks, 32 assistant-surgeons' clerks, 60 extern obstetric assistants, and clerks in the room for applying electricity. All students have opportunities of becoming clinical ward clerks to the physicians and surgeons, as well as dressers to the assistant-surgeons and dressers in the surgery; and the diligence with which they perform the duties of these offices is an important test of their fitness for the higher posts.

At *King's College Hospital*, a physician's assistant, house-surgeons, a physician-accoucheur's assistant, clinical clerks, and dressers, are chosen by examination from matriculated students of the College who are pupils at the hospital.

At the *London Hospital*, every student is expected to act as clinical clerk to the medical out-patients for six weeks in his second year, and to dress for three months in the surgical out-patient department; also to act as *post mortem* clerk for three months. The following appointments are also made: five house-physicians (qualified for registration) every six months; clinical clerks (open to all full pupils) every three months; a resident accoucheur (qualified) every six months; clinical obstetric clerks every three months in the in-patient, and every six weeks in the out-patient; four house-surgeons, for six months (each being provided with board and residence); surgical dressers every three months, three clinical assistants (each with a salary at the rate of £80 *per annum*), a medical and a surgical registrar (each with £100 *per annum*), a dental assistant, ophthalmic and aural dressers, and *post mortem* clerks.

At *St. Mary's Hospital*, three resident medical officers are appointed for twelve months, and a resident obstetric officer for six months. They all reside in the hospital free of expense. All students are required to perform the duties of clinical clerk and dresser for six months after passing the primary examination. Students of the third year are expected to assist in the out-patient department for three months. A medical registrar is appointed, with a salary of £100 a year.

At the *Middlesex Hospital*, two house-surgeons, three resident physicians' assistants, and a resident obstetric physician's assistant are appointed by competitive examination. They pay, on appointment, fees varying from ten to twenty guineas, according to circumstances. The appointments of clinical clerks and dressers are so arranged that every student may at some period of his attendance on hospital practice hold both a clerkship and a dressership. Obstetric physician's clerks and ophthalmic dressers are appointed.

At *St. Thomas's Hospital*, two house-physicians and two assistant house-physicians, two house-surgeons, an assistant house-surgeon, and a resident accoucheur, are selected every six months from students who have obtained professional diplomas. An ophthalmic clinical assistant is also appointed with a salary for six months. Clinical clerks and dressers to in-patients are selected from pupils, to the number in all of at least 100 each year; and clinical clerks and dressers to out-patients to the number of 80 or 100 each year. Two registrars, at an annual salary of £100 each, are appointed each year. There are also numerous minor appointments of anatomical assistants, prosectors, obstetric clerk, etc., open to all students.

In *University College Hospital*, eight house physicians, six house-surgeons, and four obstetric assistants, are selected annually by examination from among the senior students. They reside in the hospital, paying for their board. Physicians' clerks, surgeons' dressers, surgical ward clerks, and ophthalmic surgeon's assistants, are selected from among the pupils who are also students of the College.

At the *Westminster Hospital*, a curator of the museum and pathologist, with a salary of £52 10s., and a medical and a surgical registrar, each with a salary of £40, are appointed annually. Two house-physicians, house-surgeon, and a resident obstetric assistant, are appointed by examination for six months; they are provided with board and rooms in the hospital, and the senior house-physician, as chloroformist, receives an additional honorarium of £21. An assistant house-surgeon is appointed by examination. Clinical assistants to the assistant-physicians and assistant-surgeons and to the officers in charge of special departments are appointed from among the most advanced students of the fourth year. Every student must act as out-patient dresser during three months in his first year, and afterwards hold the office of in-patient dresser and clinical clerk during a period of three months each.

In the *Birmingham General Hospital*, a resident medical and a resident surgical assistant, and two resident dressers, are appointed, each for six months.

At the *Queen's Hospital, Birmingham*, a resident obstetric assistant is appointed every six months and a resident dresser every three months.

At the *Bristol Royal Infirmary*, students are appointed to clinical clerkships in their third and fourth years. Surgeons' dressers are appointed after the first year of study, and, when sufficiently qualified, reside in the hospital in weekly rotation, and act under the supervision of the house-surgeon. The dressers and clinical clerks pay fees in addition to

those for hospital practice. A pathological clerk is appointed every four months.

At the *Bristol General Hospital*, clinical clerks, dressers, and obstetric clerks are appointed. The clinical clerks and dressers pay each an extra fee of £5 5s. for six months; and the obstetric clerks £3 3s. for three months. Resident pupils are received, and pay £100 for the first year, and £60 for each subsequent year; or £260 for five years.

In the *Leeds General Infirmary*, all students must hold the office of clinical clerk and dresser. A house-physician and house-surgeon are elected from time to time. There are four resident assistants; two are elected every six months, and hold office for one year.

At the *Liverpool Royal Infirmary*, two house-physicians and three house-surgeons are selected (by competitive examination if necessary) from pupils of the school who have obtained a legal qualification to practise; they hold office for six months. Three clinical clerks are appointed to each physician, and three or more dressers to each surgeon, and two clerks to the wards for special diseases of women; they hold office for three months. *Post mortem* clerks are appointed for periods of six weeks. This appointment is required to be held by every student.

At the *Manchester Royal Infirmary*, a registrar, a pathological registrar, for two years, are appointed annually. The following resident medical officers are appointed: Infirmary, for two years, salary, £250 *per annum;* at Cheadle Lunatic Asylum, for one year, £150 *per annum;* at Monsall Fever Hospital, for one year, £200 *per annum*. A resident surgical officer is appointed annually, and receives £150. Eight house-surgeons, and four house-physicians are appointed in each year. An assistant to the resident medical officer at Monsall, and to those at Cheadle, are appointed every six months. House-surgeons must possess registrable qualifications. Two or more clinical clerks are appointed to each physician and assistant-physician, and two or more dressers to each surgeon and assistant-surgeon; two clerks are also appointed to the pathological registrar and to each of the assistant medical officers. They hold these for three months. Accident-ward dressers are also appointed monthly, for two months.

In the *Newcastle-on-Tyne Infirmary*, four resident dressers are appointed twice a year; each pays a fee of £10 10s. for six months. Two assistants to the pathologist are appointed in May and December.

In the *Edinburgh Royal Infirmary*, four resident physicians and four resident surgeons are appointed for six months. Clinical clerks are also appointed; and each surgeon appoints several dressers for six months. There are also assistants in the pathological department.

In the *Glasgow Royal Infirmary*, five physicians' and five surgeons' assistants are boarded and lodged in the Hospital at the rate of £25 *per annum*. The appointments can be held for twelve months, six in the medical and six in the surgical wards. These appointments are open to students who have passed all their examinations except the last, or to qualified gentlemen. There are also numerous clerkships and dresserships.

TUTORIAL INSTRUCTION.—In addition to the ordinary courses of lectures and hospital practice, and practical instruction, many of the medical schools have an officer whose special duty it is to direct the pupils in their studies, and to hold classes for the guidance of those who are about to present themselves for examination before the licensing boards.

SCHOLARSHIPS, EXHIBITIONS, AND PRIZES.—In addition to the rewards for diligence in professional study, many of the medical schools offer yearly one or more scholarships, usually in general literature, and in some instances in science. The competition is open to gentlemen about to commence their hospital studies; and the successful candidate is expected to enter as a pupil of the school in which the examination has been passed. In the examination in general literature, the subjects are usually those of preliminary education as defined by the General Medical Council, or of the Matriculation Examination of the University of London. In the Science scholarships, the usual subjects are Chemistry, Botany, and Zoology. The yearly value of the scholarships and exhibitions varies from £100 to £10.

There are also many scholarships and exhibitions, varying in value from £100 to £20, open to students during their period of professional study, or (as at St. George's Hospital) within a limited time after they have passed their final examinations for licences to practise. These exhibitions are in some cases (as at St. Bartholomew's and the London Hospitals) awarded after examination in subjects of preliminary education; but in most of the schools they are given after examination in groups of subjects of professional education, elementary or practical.

Special rewards are also offered in many of the schools for evidence of proficiency in clinical observation.

For further information respecting the scholarships and exhibitions, and regarding the class prizes, as well as for many details which we are obliged to omit, our readers must consult the prospectuses of the schools and our advertising columns.

FRANCE.

GRADUATION IN MEDICINE.

THE Degree of Doctor in Medicine of the University of France is conferred by the Faculties of Paris, Montpellier, Nancy, Bordeaux, Lille, and Lyons, under regulations laid down by the Government.

1. The studies necessary for obtaining the degree last four years; during the first three years they may be carried on either in the Faculties, in the *Ecoles de plein exercice*, or in the preparatory schools of medicine and pharmacy. The studies of the fourth year can only be made in a Faculty or in an *Ecole de plein exercice*.

2. Candidates must produce, when they take the first inscription, the diploma of Bachelor of Sciences, limited as regards the mathematical part. They must undergo five examinations and defend a thesis. The second, third, and fifth examinations are each divided into two parts.

3. The five examinations are as follow. *First Examination:* Physics, chemistry, medical natural history. *Second Examination:* First part, anatomy and histology; second part, physiology. *Third Examination:* First part, external pathology (surgery), midwifery, operative surgery; second part, internal pathology (medicine), general pathology. *Fourth Examination:* Hygiene, legal medicine, therapeutics, materia medica, and pharmacology. *Fifth Exam-*

ination: First part, clinical surgery and obstetrics; second part, clinical medicine, practical demonstrations in pathological anatomy; and a thesis on a subject chosen by the candidate.

4. The first examination takes place after the fourth inscription and before the fifth; the first part of the second examination, after the tenth inscription, and before the twelfth; and the second part after the twelfth inscription and before the fourteenth. The third examination cannot be passed until the end of the sixth *trimestre* of study. Any candidate who does not pass the first examination in November, at the latest, will be put back to the end of the scholastic year, and will not be permitted to take out any inscription during the course of that year.

3. Candidates for the doctorate, pupils of *écoles de plein exercice* or of the preparatory schools, are examined by the Faculties at the periods fixed in the preceding article. They may, however, defer the first examination until after the twelfth inscription. In that case they must pass the second examination before the thirteenth inscription, and, from the commencement of the second year of study, are subjected to interrogations at the end of each six months, the results of which are transmitted to the Faculties, to be taken into account in the examinations for the doctorate.

6. The inscriptions for *officier de santé* cannot be converted into inscriptions for the doctorate, in the case of pupils actually studying; but this conversion may be permitted in the case of *officiers de santé* who have practised medicine for at least two years.

7. Practical work in the laboratory, dissection, and residence near the hospitals, are obligatory. Each annual period of laboratory work and dissection comprises six months' course, or *semestre*. Residence near the hospitals must not continue less than two years.

8. The fees to be paid by candidates for the degree of Doctor in Medicine are fixed as follows.

Sixteen inscriptions at 32 *francs* 50 *centimes* each	520 *francs.*	
Eight examinations at 30 *francs* ...	240	„
Eight certificates of proficiency at 25 *francs*	200	„
Expenses of materials for practical study, first year, 60 *francs;* second and third years, each 40 *francs;* fourth year, 20 *francs*	160	„
Thesis	100	„
Certificate of proficiency	40	„
Diploma	100	„
Total	1,360	„

9. Every candidate, who, without an excuse admitted by the jury, does not answer when his name is called, on the day of which notice has been given to him, is sent back for three months, and forfeits the fees which he has paid.

10. The fees paid by the pupils of the Faculties go to the public treasury. The fees paid for inscriptions and for practical work by the pupils of the *écoles de plein exercice* and the preparatory schools go to the municipal treasuries.

A foreigner holding medical qualifications to practise medicine, if desirous of obtaining the degree of the University of France, must show to the Minister of Public Instruction his diploma, and the certificates of the course of study which he has undergone in his own University or Medical School. The Minister, if satisfied, will authorise the candidate to present himself for the five final examinations. These are conducted in the French language. The fees are as follows: each examination 90 *francs*=450 *francs;* thesis, 240 *francs;* fifteen inscriptions, 520 *francs;* three *examens de fin d'année*, 90 *francs;* diplomas of *bachelier ès lettres et ès sciences*, 100 *francs;* in all, 1,400 *francs*. The candidate has to pay all the fees, although exempted from the necessity of passing the preliminary examinations, and those for the *bachelier ès lettres et ès sciences*.

MEDICAL EDUCATION.

Medical Education in France is under the control of the State, and is given in the Faculties of Medicine and Pharmacy, the Écoles de Plein Exercice, and the Preparatory Schools of Medicine and Pharmacy.

The Faculties are six in number: three—those of Paris, Montpellier, and Nancy, are composed of two distinct schools of Medicine and Pharmacy; the others, at Bordeaux, Lille, and Lyons, are called mixed Faculties of Medicine and Pharmacy. They confer, besides the same diplomas and certificates as the other schools, the diplomas of doctor in medicine and *pharmacien* and midwife of the first class.

There are two *écoles de plein exercice*, viz., at Nantes and at Marseilles. They are entitled to give the same certificates as the preparatory schools; but candidates for the doctorate may take out sixteen inscriptions in them.

The Preparatory Schools are entitled to give diplomas or certificates of *Officier de santé and Pharmacien*, herbalist, or midwife, of the second class. Candidates for the doctorate can study in them three years, and take out twelve inscriptions. There are preparatory schools at Algiers, Amiens, Angers, Arras, Caen, Clermont, Ferrand, Dijon, Grenoble, Limoges, Poitiers, Reims, Rennes, Rouen, Toulouse, and Tours.

Faculty of Medicine in Paris.

The School of Medicine in Paris is open to all who wish to attend the courses and take degrees. Great facilities are afforded to British and foreign students for the prosecution of their studies, all lectures being given gratuitously, and no payment being required for hospital attendance. For dissections, however, a payment of 30 *francs* or more is expected from each student.

The medical sessions begin for winter on October 15th, and for summer on April 15th of each year.

The instruction in the Faculty of Medicine in Paris is given by the following professors: M. Sappey, Anatomy; M. Robin, Histology; M. Béclard and M. Richet (*agrégé*), Physiology; M. Wurtz and M. Henninger (*agrégé*), Medical Chemistry; M. Baillon and M. de Lanessan (*agrégé*) Natural History; M. Gavarret and M. Gariel, Medical Physics; M. Regnauld, Pharmacology; M. Jaccoud, M. Peter, and M. Dieulafoy (*agrégé*), Internal Pathology or Medicine; M. Trélat and M. Berger (*agrégé*), External Pathology or Surgery; M. Guyon, Surgical Pathology; M. Le Fort, Practical Surgery; M. Hayem, Materia Medica and Therapeutics; M. Charcot and M. Ollivier (*agrégé*), Pathological Anatomy; M. Pajot and M. Pinard (*agrégé*), Midwifery; M. Bouchardat, Hygiene; M. Brouardel, Forensic Medicine; M. Bouchard, General Pathology and Therapeutics; M. Vulpian, Comparative and Experimental Pathology; MM. G. Sée, Lasègue,

Mardy, Potain, Clinical Medicine; MM. Gosselin, Richet, Verneuil, Trélat, Clinical Surgery; M. Depaul, Clinical Midwifery; M. Panas, Clinical Ophthalmology; M. Parrot, Diseases of Children; M. Laboulbène, History of Medicine; M. Ball, Diseases of the Mind and Nervous System. Supplementary courses are also given on Diseases of the Skin, Diseases of Children, Venereal Diseases (M. Fournier).

The Faculty of Medicine possesses laboratories for Anatomy (Professor Sappey), Operative Surgery (Professor Le Fort), Physics (Professor Gavarret), Chemistry (Professor Wurtz), Biological Chemistry (Professor Wurtz), Practical Forensic Medicine (Professor Brouardel), Botany (Professor Baillon), and Teratology (Director, M. Dareste), Normal Histology (Director, M. Ch. Robin), Physiology (Professor Béclard), Pathological Anatomy (Professor Charcot), Experimental and Comparative Pathology (Professor Vulpian), Therapeutics (Professor Hayem), Pharmacology (Professor Regnauld).

In consequence of limited accommodation and restricted pecuniary means, these laboratories are, as a rule, incapable of being so useful as such institutions might be expected to be. It is found necessary to limit their use to medical men and to students who are pursuing researches for some definite purpose, such as the preparation of their theses. No payment is required; the demonstrators (*préparateurs*) aid with advice; the apparatus is at the disposal of the workers in the laboratories, but they generally have to pay for any animals or other objects which they may require.

Every student is required to go through courses of practical instruction (*travaux pratiques*) as follows: first year, physics, chemistry, and natural history; second and third years, anatomy, physiology, and histology; fourth year, practical surgery and pathological anatomy.

Attached to the Faculty of Medicine are the Botanical Gardens and Museum of Natural History; the Orfila Museum of Anatomy and Zoology, at the École de Médecine; the Dupuytren Museum of Pathological Anatomy, in the École Pratique; and the Library.

The prizes of the Faculty of Medicine are the following. The Corvisart prize, a gold medal of the value of 400 *francs* (£16), is offered for competition to all pupils of the Faculty who have also entered to one of the internal clinics. The subject is some question in medicine, the answer to which must be derived exclusively from the facts observed in hospital practice. The Monthyon prize, consisting of 700 *francs* (£28), is awarded to the author of the best essay on the prevalent diseases of the preceding year, their characters, symptoms, and treatment. The Barbier prize of 2,000 *francs* (£80) is offered annually to the inventor of an operation, or of instruments, bandages, etc., of general utility and superior to anything of the kind that has been already in use. The Chateauvillard prize, also of 2,000 *francs*, is awarded yearly to the author of the best work on the medical sciences, printed between January 1 and December 31 in the preceding year. The works sent for competition must be in French. Graduation theses are admitted. An annual sum of 1,000 *francs* (£40) is awarded, under the will of the late Baron de Frémont, to a meritorious but poor student. An annual revenue of 3,000 *francs*, bequeathed by Madame de Barkow, is applied to a similar purpose in the superior educational establishments in Paris. The Lacaze prize of 10,000 *francs* (£400) is offered biennially for the best essay on phthisis or on typhoid fever—the subjects being taken alternately. After the examination of the theses, the Faculty names to the Minister of Public Instruction the candidates worthy of special distinction, in the form of silver medals, bronze medals, and honourable mention. Bursaries of the value of 1,200 *francs* are awarded after competition. Each bursary is tenable for one year; and the holder, if desirous of its renewal, must again compete. Candidates must be natives of France, at least eighteen years of age.

The College of France.

In this institution, the following courses of instruction on sciences allied to medicine are given, viz., Experimental Medicine, by Dr. Brown-Séquard; General Anatomy, by M. Ranvier; Natural History of Organised Bodies, by M. Marey; Comparative Embryogeny, by M. Balbiani; Organic Chemistry, by M. Berthelot; Mineral Chemistry, by M. Schutzenberger; Physics, by M. Mascart; Natural History of Inorganic Bodies, by M. Fouqué; General Physics, by M. Bertrand. The Histological Laboratory is under the direction of M. Ranvier and M. Malassez, and is specially intended for the use of persons desirous of making original researches. The Physiological Laboratory, directed by Professor Marey and M. François Franck, is open to persons who enter their names for the purpose with the secretary of the Faculty of Sciences, and who have a sufficient knowledge of physiology to enable them to undertake experimental research. The researches may have reference to any department of physiology; but special attention is paid in this laboratory to the phenomena of motion, and their registration by suitable apparatus.

Free Medical Instruction.

In addition to the professors in the Faculty of Medicine, there are a number of lecturers whose instruction is recognised. Among them are, MM. Lenoir and Fort, for Anatomy; M. François Franck, for Physiology and Pathology; M. Dareste, for Embryology and Teratogeny; Dr. Latteux, for Histology and the Use of the Microscope; MM. Moutard-Martin, Hanot, Barié, Cuffer, du Castel, Lorey, and Muselier, for Internal Pathology; MM. Duret and Schwartz, for External Pathology; MM. Ribemont, Champetier de Ribes, and Porak, for Midwifery; MM. de Sinéty, Chéron, and Berrut, for Diseases of Women; M.M. Abadie, Carré, Coursserant, Desmarres, Fano, Galezowski, Meyer, Parinaud, and Gorecki, for Diseases of the Eyes; MM. Fauvel and Cadier, for Laryngoscopy; M. Gellé, for Diseases of the Ears; MM. Reliquet, Mallez, Picard, Debuc, and Langlebert, for Diseases of the Urinary Passages; MM. Apostoli and Tripier, for Medical Electricity.

The Hospitals of Paris.

Pupils of the Faculty of Medicine in Paris attend, without payment, the practice of any of the hospitals which they may select. The visits of the physicians and surgeons are generally made at an early hour—8 or 9 A.M. The following is a list of these institutions:

Hôtel Dieu, Parvis Nôtre Dame. — 530 beds. *Physicians:* Drs. G. Sée, Hérard, Oulmont, Frémy, Moutard-Martin, and Empis; *Surgeons:* MM. Richet, Cusco, and Panas (Diseases of the Eye). The hospital possesses laboratories for histology, chemistry, and physiology; also a library for the use of the *internes*.

Hôpital des Cliniques, 13, Rue Monsieur-le-Prince;

for Midwifery, 89, Rue d'Assas.—128 beds. *Physician Accoucheur:* Dr. Depaul; *Superintendent of Clinic:* M. Ribemont. Students are only admitted to the obstetric department of this hospital when provided with a card, which is obtained from the Secretary of the Faculty of Medicine, after passing the second examination for the doctorate.

Hôpital de la Charité, 47, Rue Jacob.—504 beds. *Professor of Clinical Medicine:* M. Hardy; *Professor of Clinical Surgery*, M. Gosselin; *Physicians:* Drs. Reynaud, Vulpian, Laboulbène, Desnos, and Bernutz (Obstetric). The library of this hospital contains a large number of works in anatomy, physiology, medicine, and surgery, including numerous theses.

Hôpital de la Pitié, 1, Rue Lacépède.—709 beds. *Physicians:* Drs. Lancereaux, Gallard, Peter, Dumontpallier, Lasègue, and Brouardel; *Surgeons:* MM. Verneuil and Polaillon.

Hôpital Lariboisière, Rue Ambroise Paré.—706 beds. *Physicians:* Drs. Fernet, Jaccoud, Bouchard, C. Paul, Proust, and Siredey; *Surgeons:* MM. Duplay (Diseases of the Eye) and Labbé. Besides the ordinary clinical instruction, instruction is also given in ophthalmic surgery and diseases of the larynx.

Hôpital Saint-Antoine, 184, Rue de Faubourg Saint-Antoine.—647 beds. *Physicians:* Drs. Mesnet, Dujardin-Beaumetz, Rigal, Cornil, Hayem, d'Heilly, and Duguet; *Surgeons*: MM. B. Anger and Périer.

Hôpital Necker, 151, Rue de Sèvres.—418 beds. *Physicians:* Drs. Potain, Blachet, and Ollivier; *Surgeons:* MM. Trélat and Guyon. The Civiale museum, containing numerous calculi and specimens of diseases of the urinary organs, is attached to the hospital.

Hôpital Beaujon, 208, Faubourg Saint-Honoré.—422 beds. *Physicians:* Drs. Millard, Guyot, Gombault, and Féréol; *Surgeons:* MM. Le Fort and Tillaux. The hospital possesses a library containing 200 volumes, and a large number of theses.

Hôpital Cochin, 17, Faubourg Saint-Jacques.—249 beds. *Physician:* Dr. Bucquoy; *Surgeon:* M. Desprès; *Obstetric Surgeon:* M. Lucas-Championnière. An obstetric department is attached to this hospital; but only a limited number of students are admitted to the morning visit.

Hôpital Laennec, 42, Rue de Sèvres.—580 beds. *Physicians*: Drs. Ball, Damaschino, Ferrand, and Legroux; *Surgeon:* M. Nicaise.

Hospice de la Salpêtrière, Boulevard de l'Hôpital.—3,069 beds for old persons, and 662 for female lunatics. *Physicians:* Drs. Charcot and Luys; *Surgeon:* M. Terrier; *Physicians to the Lunatic Department:* Drs. Legrand du Saulle, Moreau, and A. Voisin. There is a medical library, founded and supported by the *internes;* it contains more than 1,500 volumes. M. Charcot, one of the physicians, gives a course of instruction on diseases of the nervous system; and MM. Luys and Voisin give courses of mental pathology.

Hospice de Bicêtre.—1,794 beds for old persons, and 340 for male lunatics. There is also a small accident ward of twelve beds. *Physician:* Dr. Debove; *Surgeon:* M. Gillette; *Physicians to the Lunatic Department:* Drs. Falret, J. Voisin, and Bourneville. The library, which was founded in 1865, contains about 2,000 volumes.

Hôpital des Enfants Malades, 149, Rue de Sèvres.—518 beds. *Physicians:* Drs. Archambault, Bouchut, and Labric (for acute diseases), Simon and Descroizelles (chronic diseases); *Surgeon:* M. de Saint-Germain. There are wards for acute and chronic diseases, small-pox, and diseases of the eye.

Hôpital Sainte-Eugénie, 89, Rue de Charenton.—427 beds. *Physicians:* Drs. Bergeron, Triboulet, Cadet de Gassicourt; *Surgeon:* M. Lannelongue.

Hôpital Saint-Louis, 40, Rue Bichat.—823 beds; of which 637 are occupied with cases of skin-disease, 28 with obstetric cases, and the rest with surgical cases. *Physicians:* Drs. Hillairet, Lailler, Vidal, Guibout, Besnier, and Fournier; *Surgeons:* MM. Péan and Le Dentu. General medicine is not taught in this hospital, but there are ample means for the special study of diseases of the skin, on which courses of theoretical and practical lectures are delivered. A museum containing several hundred models and drawings illustrating diseases of the skin; to which is added M. Fournier's collection of illustrations of venereal diseases. The hospital is also rich in surgical cases.

Hôpital du Midi, 111, Boulevard du Port-Royal.—336 beds, devoted exclusively to the reception of cases of venereal disease. *Physicians:* Drs. Simonet and Mauriac; *Surgeon:* M. Horteloup.

Hôpital de Lourcine, 111, Rue de Lourcine.—243 beds. *Physicians:* Drs. Gougenheim and Martineau; *Surgeon:* M. Terrillon. Students are admitted to the hospital by special ticket.

Hôpital Tenon, Rue de la Chine.—635 beds. Besides these, 190 beds can be added in cases of epidemics, etc. *Physicians:* Drs. Gérin-Roze, Hallopeau, Grancher, Dieulafoy, Straus, and Rendu; *Surgeons:* MM. T. Anger and Delens.

Maison d'Accouchement, 121, Boulevard du Port-Royal.—316 beds. *Physician:* Dr. Hervieux; *Surgeon:* M. Tarnier; *Assistant-Surgeon:* M. Lucas-Championnière. This hospital is employed exclusively for the education of midwives, and is not open to students of medicine. Attached to the hospital is a school for midwives.

Hospital Appointments in Paris: Concours.

The medical staff of each hospital in Paris consists of—1. Physicians and Surgeons; 2. Prosectors; 3. *Internes* and *Externes* in Medicine and in Surgery; 4. *Pharmaciens;* 5. *Internes* in Pharmacy.

All the appointments in the hospitals of Paris are obtained by *concours;* and, when vacant, are eagerly competed for.

Each medical service is under the direction of a physician, and comprises also an *interne* and three or four *externes*. The organisation of the surgical departments is similar; but the number of pupils is greater, and there are generally two or three *internes* and five or six *externes*.

The chief of the medical staff, physician or surgeon, receives annually a sum of 1,200 *francs* (£48) in the central hospitals, and 1,500 *francs* (£60) in the more distant ones. The physicians retire from hospital duty at the age of 65, and the surgeons at 63. When first nominated, they have to attend the consultations at the central bureau, and to do duty for any of the hospital physicians and surgeons that may be absent. As vacancies occur in the hospitals, they receive appointments in the order of their nomination.

The *internes* and *externes* are nominated by *concours* for four years, and receive 500 *francs per annum* for the first two years, 600 *francs* the third year, and 700 *francs* the fourth year. Some of them are also provided with lodging, fire, and light; others receive 400 *francs* yearly in lieu of lodging.

The *interne* is the most direct assistant of the hospital physician or surgeon; he accompanies him in his morning visit, and himself visits the patients in the evening. The *internes* remain on duty in turn, to attend to urgent accidents and cases of illness.

In November, the *internes* are invited to compete for prizes. To those of the first and second years are offered a silver medal, books, and two certificates of honour. Those of the third and fourth years compete for a gold medal, a silver medal, and two certificates of honour. The successful candidate for the gold medal is entitled to two additional years of *internat*.

Those candidates who are placed in the first list at the *concours*, but do not succeed in getting appointments, are termed provisional *internes*, and fill the places of those who are absent. They have, however, to compete again at the end of the year, if they desire to receive appointments.

The *externes*, who are appointed for three years, have to take records of cases, either alone or under the direction of the *internes*, to assist the latter in dressing difficult cases, and to dress the minor cases. The *externes* at the central hospitals are not paid; at those more distant from the centre of the city, they receive 300 *francs* yearly; at others more distant, one *franc* daily; at the Maison de Santé, 300 *francs* yearly, and 300 *francs* for expenses; at the Tenon hospital, 50 *francs* monthly.

The *concours* for the *external* generally commences early in October and continues until the end of December. Candidates must not be under 18, nor above 26 years of age. They must produce—1. A register of birth; 2. A certificate of vaccination; 3. A certificate of good conduct signed by the mayor of the commune in which the candidate is domiciled; 4. A certificate of at least one inscription in the Faculty of Medicine. The examination consists in—1. An oral description of some subject in descriptive anatomy; 2. A similar description of some elementary subject in pathology or minor surgery. For each five minutes are allowed, after five minutes of reflection. The maximum number of marks that can be gained by a candidate is 20 for each examination. The examination is conducted by four physicians and three surgeons of the central bureau, generally from those most recently appointed.

The *concours* for the *internat* takes place nearly at the same time as that for the *external*. Candidates must not be more than 28 years old, and must produce certificate of having performed the duties of *externe*, at least from the first day of the preceding January, without interruption (unless this have been unavoidable); also certificates from the physicians and surgeons and the directors of the hospitals in which they have performed the duties of *externe*, testifying to their punctuality, obedience, and good conduct. The examination commences with a written essay on some subject in anatomy and medical or surgical pathology, for which two hours are allowed. This is followed by an oral examination in the same subjects; ten minutes being allowed for each answer, often ten minutes of consideration. The maximum of marks obtainable for the written examination is 30; for the oral 20. After this the candidates are classified.

At the end of the *concours*, the candidates are classified according to the number of marks; and the 35 or 40 first on the list are nominated *internes*.

The first four candidates on the list are the successful candidates for the prize for *externes*, the examination for which is the same as that for the *internat*. The first receives a case of instruments of the value of 300 *francs*, and has, during his first year, the sum of 800 *francs* in addition to the payment which he receives in common with the other *internes*. The first and second canditates are also presented with books.

The prizes offered to the *internes* are competed for in the beginning of November. The examination consists in—1. A written composition, for which two hours are allowed, bearing on anatomy, physiology, and pathology; 2. An oral description of some subject in external pathology; 3. A similar description of some subject in internal pathology (for each of these ten minutes are allowed); 4. *Internes* of the third and fourth years must also have sent in, before August 15, an original essay on some subject selected by them; this is generally based on observations made in the hospital.

The Civiale prize, of the value of 1,000 *francs*, is given every second year to the best essay by an *interne* on duty on some point in the pathology of the genito-urinary passages.

The *concours* at the Bureau central for the office of physician consists of five examinations. 1. The candidate gives a lecture for a quarter of an hour on a patient, for whose examination ten minutes are allowed. 2. A lecture of twenty minutes' duration, after twenty minutes' reflection, on some subject in medicine. 3. A written consultation on a medical case; ten minutes being allowed for examining the patient, and three-fourths of an hour for writing out the consultation. To each of these examinations a maximum of 20 marks is allotted. During these three examinations, a process of elimination takes place, so that at last there remain five candidates for one place, eight for two, and ten for three places. These are then further subjected to the following tests: 1. A written composition for which three hours are allowed, on some subject in medicine, which must comprise a question in pathological anatomy; 2. A lecture of thirty minutes' duration on two patients, twenty minutes being allowed for examining them.

In the *concours* for the office of surgeon, the examinations are nearly the same; there is, in addition, an examination in operative surgery, and the candidate has to lecture on one subject instead of two.

Medical Service of the French Army.

Candidates for admission to the French medical service are chosen yearly by *concours*, in numbers proportioned to the demands of the service. They are distributed, at their own option and convenience, among the towns which possess military hospitals or wards for soldiers in civil hospitals, and have also a school of medicine; viz., Paris, Lille, Nancy, Lyons, Marseilles, Montpellier, Toulouse, Bordeaux, Nantes, Rennes, and Algiers: and *concours* are held at each of the places, for admission of pupils in medicine and pupils in pharmacy.

The following classes of candidates are admitted as pupils in medicine: 1. Students having eight, twelve, or sixteen inscriptions for the doctorate, and having passed the corresponding examinations: 2. Doctors in medicine. They must be born or naturalised Frenchmen, and must not have exceeded, on January 1st of the year in which the *concours* takes place, 23 years of age in the case of students with eight inscriptions, 24 years in the case of students with twelve, 25 years in the case of students with sixteen inscriptions, and 26 years in the case of doctors of medicine. They must be certified as fit

for service by an army medical officer holding the rank of surgeon-major or a higher rank, and, if necessary, their fitness may be verified by an examining board; and they must engage on honour to serve at least ten years from the date of appointment of *aide-major* of the second class. Candidates must make applications for admission on a form to be obtained at the offices of the military intendants resident in the places above mentioned.

The subjects of the examinations at the *concours* are as follows. For candidates with eight inscriptions: 1. A written composition on a question of physiology; 2. Questions on descriptive anatomy and physiology. For candidates with twelve inscriptions: 1. A composition on a subject in general pathology; 2. Questions in internal and external pathology; 3. Questions on anatomy and psychology. For candidates with sixteen inscriptions: 1. A written composition on a question in medical pathology and therapeutics; 2. Questions on external pathology and operative surgery; 3. Questions on internal pathology, hygiene, and therapeutics. For doctors in medicine: 1. A written composition on a subject in general pathology; 2. An oral examination on regional anatomy and its applications to medicine and surgery; 3. Clinical examination of two patients. The examinations are conducted by a board, consisting of a medical inspector as president, a professor and an *agrégé* professor in the School of Military Medicine and Pharmacy, and the professor of applied chemistry in the school, together with a *pharmacien-major* of the first class. Three hours are allowed for writing the essay; and each series of questions occupies twenty minutes.

Having passed a satisfactory examination, the candidates are attached to the military hospitals or wards in the town, and are subject to certain disciplinary rules with the object of regulating their studies. They do not wear uniform. Each candidate is allowed, for two years at most, from the time of his thirteenth inscription, a sum of 1,200 *francs* (£48) *per annum*, to pay for maintenance, books, and instruments. Those alone who have been bursars in the military Prytaneum are allowed, from the time of their admission as pupils in the military medical service, a monthly allowance of 1,200 *francs* in Paris, 1,000 *francs* in Lyons and Marseilles, and 800 *francs* in the other towns.

In case of rejection, the fees for admission to a second examination must be paid by the candidate; and no one is admitted after a second rejection. Permission to study during an additional year is granted only when the pupil has been prevented by illness during at least two months in the year from following his studies.

Doctors of medicine, who have passed the required examinations, are admitted to the School of Military Medicine and Pharmacy, Val-de-Grâce, with the title of *médecin stagiare*. The instruction given to them in the school is essentially practical, and has special reference to the requirements of military service. They are allowed 2,800 *francs* (£112) yearly, and wear uniform. They attend the school of Val-de-Grâce in Paris during at least eight months; and, if found qualified on examination, receive the rank of *aide-major* of the second class.

Naval Medical Schools.

For the purpose of training medical officers for the navy, there are three schools: Brest, Rochefort, and Toulon.

GERMANY.

GRADUATION IN MEDICINE.

In the German empire there are twenty Universities which possess a Medical Faculty and grant degrees in Medicine; viz., those of Berlin, Bonn, Breslau, Erlangen, Freiburg im Breisgau, Giessen, Göttingen, Greifswald, Halle, Heidelberg, Jena, Kiel, Königsberg, Leipzig, Marburg, Munich, Rostock, Strasburg, Tübingen, and Würzburg.

No one can legally practise Medicine in this empire unless he have passed the 'Staats-Examen' Board. The law forbids anyone to call himself *Arzt* (Physician) unless he have passed the State Board; or Doctor, unless he have passed the examinations at some University, and thereby acquired the degree. The doctor who has not passed the State Board is not a licensed physician, and may hold no appointment; and if he practise, he has no power or right to insist on payment of his services. The practitioner who is neither doctor nor physician, if any mishap occur from his ignorance, is punished not only by fine, but by imprisonment for a period varying from six months to ten years.

The expenses of passing the State Board are less than half of those for the faculty of an University, and the examination is more exclusively practical; hence it is selected by the poorer students who seek only a rural practice. The majority of students pass both the University and State examinations, and this is especially necessary for those who aspire to any medical office.

No medical diploma, either from an University or otherwise, can be obtained in Germany without a gymnasial certificate, to obtain which an examination must be passed at a German gymnasium (public school) in Greek, Latin, at least one Modern Language besides German, Logic, the Physical Sciences, and Mathematics. A candidate who cannot present this, or an equivalent certificate, must pass a preliminary examination in those subjects.

The number and character of professional chairs in the medical faculties vary greatly in the different Universities; but in all we find three classes of teachers, viz., professors, extraordinary or assistant professors, and *privat-docents*.

The professors are appointed for life, and at the end of thirty years' service can retire on a pension; they receive a fixed salary from the State or University—a part of the revenue derived by the medical faculty from certain fees, and their lecture fees from the students. The fixed salary is occasionally increased, according to the success and reputation of the professor. Any doctor in medicine may be a candidate for a vacant chair, the selection being made by the Minister of Public Instruction from a list of names recommended by the faculty.

The extraordinary or assistant professors are appointed in like manner from among the *privat-docents*. As a rule, their compensation comes only from students' fees, but occasionally a small fixed salary is allowed.

There are no independent schools in Germany. There is, however, little objection to free, or, as it is sometimes called, 'extramural teaching', and hence young men of ability can establish themselves as private teachers, demonstrators, etc., in the immediate vicinity of the Universities, relying on their own talents and tact to secure pupils. These are the *privat-docents*, much of whose teaching consists in giving short courses, of from six to eight weeks'

duration, on special subjects. The position of *privat-docent* is accessible to all doctors of medicine, and the number is unlimited. Their compensation is from students' fees, and they may not underbid the regular professor. At some Universities they are furnished with rooms, and given a share of the clinics; at others, they receive little or no assistance. The *privat-docents* are understood to be in training for professorships, and, if they show marked ability as teachers or as investigators, their promotion may be very rapid.

The course of study at the German Universities varies according to the requirements for the particular medical degree, but in no case is it less than three years. At some, the course extends over four years. The following lectures are the least which will be accepted by any of the University faculties, and may be taken in whatever order the student may wish. The courses occupy nine-and-a-half months in each year. For one year: Chemistry, six hours weekly; Physics, four hours weekly; Zoology and Comparative Anatomy, three hours weekly; Botany, three hours weekly; Mineralogy and Geology, two hours weekly; Anatomy, Histology, and Preparation of Specimens, ten hours weekly; Physiology and Laboratory Work, eight hours weekly; General Pathology, Pathological Anatomy, and Practical Work, six hours weekly; Pharmacology and Toxicology, two hours weekly. For two years: Special Pathology and Medical Clinic at Hospital, ten hours weekly; General and Special Surgery, Hospital Clinics, and Operating, ten hours weekly for one year, or five hours weekly for two years. This course may not be taken at the same time as the previous medical course. Obstetrics and Gynæcology, with Clinics, three hours weekly for one year; Eye and Ear Clinics, Use of Ophthalmoscope, Operations, four hours weekly, for one year; Forensic Medicine, two hours weekly, for one year.

The professors receive fixed salaries, varying from £120 to £480 annually, and increased every ten years by the addition of from £20 to £50. The students' fees for the entire course vary in different schools from £36 to £52.

Regulations for the German Staats-Examen.

The examination for the licence to practise as a Physician, Surgeon, and Accoucheur, in any part of the German Empire, may be either passed before the Medical Examination Commission at Berlin, or before a Medical Examination Committee at any German University. The Examination Committees, consisting of scientifically educated professional men in all branches of the Faculty, are appointed every year by the authorised Central Board, on whose decision it depends whether the President of the Commission shall be selected from the examiners or not. The notice for examination before the superior Examination Committee must be deposited with the Minister of Medical Affairs at Berlin, and the notice for examination before an Academical Examination Committee with the acting Curator of the University chosen, or, in default of such functionary, with the nearest superior Court of the Examination Commission. To the notice for examination must be attached: 1. A certificate of having completed a course of study at a gymnasium; 2. A certificate of the full course of medical study at an University; 3. A certificate of proficiency at the Natural Science Examination of some German University; 4. Proof that the candidate has taken part and had practice for at least two terms both in Clinical Surgery and in Clinical Medicine, and in Clinical Midwifery has attended at least four separate labours; 5. A testimonial from a public vaccinator, or some other recognised medical man, that the candidate has acquired the necessary dexterity in Vaccination.

The examinations commence every year in November, and are not continued beyond the middle of July in the following year.

Candidates who have not reported themselves at the latest by the end of the year, and who have not deposited the certificates required, are not admitted to examination before the November following. Exceptions to this rule can only be made under very special circumstances.

The examination is divided into five parts, viz.: 1. Anatomical, Physiological, and Pathological; 2. Surgical and Ophthalmic; 3. Medical; 4. Gynæcological; 5. *Vivâ voce*. All candidates, without exception, must pass these examinations in the above order.

In the first portion, the candidate has to write essays on the various subjects, and also to demonstrate on the dead body, and reply to questions put to him.

In the second portion, the candidate has to undergo a clinical and a technical test. The clinical part is conducted in the surgical department of a large hospital, or in the clinic of an University, and usually lasts from seven to nine days, the candidate during this period taking charge of several patients, under the supervision of one of the examiners. During this period, also, the candidate may be required to satisfy the examiners that he can operate on the dead body, and is always required to give his diagnosis in an ophthalmic case.

The third portion of the examination is devoted to medicine, and is purely clinical. The candidate is examined in a hospital or in a clinic of an University, and is required to write prescriptions, and to give his opinion as to the doses of certain drugs used in certain cases of sickness.

The fourth portion consists in an examination conducted in the Charity Lying-in Hospital at Berlin, or in the Lying-in Hospital of an University. The candidate has to examine cases in the presence of an examiner, and to give the diagnosis, prognosis, and treatment. He is also required to attend a case of labour in the presence of an examiner, and to write down his opinion afterwards, stating the exact presentation, etc. He is also required to undertake the treatment of cases during seven days, under the superintendence of an examiner.

The fifth portion, the *vivâ voce* examination, is conducted publicly, under the superintendence of the President of the Examination Commission, by three Commissioners. To this examination, only those candidates are admitted who have satisfactorily passed the previous portions. This examination includes General and Special Pathology, Therapeutics, Surgery, Midwifery, Pharmacy, and Hygiene. Any candidate who fails to pass these five portions of the examination twice will not be readmitted to examination.

The fee for the examination is 204 marks (or £10 4s. English money), viz.:

	£	s.	d.		Marks.
1st portion	2	6	0	=	46
2nd ,, ...	3	3	0	=	63
3rd ,, ...	1	14	0	=	34
4th ,, ...	1	4	0	=	24
5th ,, ...	0	6	0	=	6
Expenses ...	1	11	0	=	31
	£10	4	0		204

The examinations are always conducted in the German language.

UNIVERSITY OF BERLIN.*

THE conditions for promotion to the Doctorate of Medicine, Surgery, and Midwifery, at the Royal Frederick William University at Berlin, are as follows.

1. Candidates must have studied medicine at least four years in one or more Universities regularly constituted. Universities and Medical Colleges abroad are deemed equivalent to the Universities in Germany. 2. Candidates under 30 years of age who have not matriculated at this University, or who have left previously to their application for promotion, must matriculate again. This can be done free of cost. Both these and matriculated students of this University must, before making application for promotion, take out a preliminary certificate of having left, and will not receive the real certificate until after promotion. 3. The candidate has to make application to the Dean, handing in at the same time the documents mentioned under 1 and 2. He has then to pass a written and verbal preliminary examination before the Dean, before being admitted to the *examen rigorosum* before the Faculty. The verbal examination is generally conducted in German or Latin, and extends to all branches of theoretical and practical medicine. At the written examination, an *ex tempore* essay must be written, without any assistance, in a given time. 4. After the preliminary examination, the Dean lays before the Faculty the documents having reference to the personality and the course of studies of the candidate, the judgment respecting the preliminary examination, and the essay composed thereat. Should that body decide for admission, the Dean will appoint as early a time as possible for the *examen rigorosum*. 5. The *examen rigorosum* takes place before six members of the Faculty, is verbal only, and is concluded at one sitting, each of the examiners examining the candidate for a quarter of an hour. No branch of theoretical and practical medicine and surgery is excluded. It is generally held in German, but, if necessary, in Latin. From this examination no candidate can be exempted. If he be rejected, six months must elapse before re-admission. 6. After this, the candidate must present a German or Latin dissertation. The members of the Faculty are ready to advise the candidate as to the choice of a subject for his essay; but the essay must be entirely original; and the candidate must declare on oath in writing that he has composed it entirely himself. If the manuscript be pronounced good by the Faculty, the candidate will have to get printed, at his own expense (about 85 marks), by a certain printer, a prescribed number of copies. It must consist of at least two quires, and give evidence of a good scientific knowledge. To this must be annexed a brief *curriculum vitæ*, and at least three theses approved by the Dean. 7. After this, follows the public discussion in the Aula of the University. The discussion has reference both to the dissertation and to the theses. Next, the opponents chosen by the candidate, who must be at least three in number, divide on the subject. Their names must appear on the title-page of the dissertation. Afterwards anyone belonging to the University is at liberty (*e corona*) to oppose. Both the candidate and the opponents must be dressed in black. The discussion is either in German or in Latin. The Minister of Education has the privilege of allowing the use of another language, and also of dispensing with the discussion. 8. After the discussion is ended, the oath-taking and promotion of the candidate as a Doctor of Medicine, Surgery, and Midwifery takes place, conducted by the Dean or his representatives. After the ceremony of promotion is completed, the Dean delivers the diploma to the newly created doctor, who inscribes his name in the book of the Faculty. The expense of making out the diploma (15 *marks*) is borne by the candidate. A copy of it is fixed on the black board of the Faculty, and a certain number of copies are delivered to the Registrar of the University, for distribution. Promotion *in absentiâ* can on no account take place. 9. Four hundred and forty *reichsmarks* (£22) must be paid to the Dean as fees for the degree of Doctor in Medicine, of which 221 *marks* must be paid on application, and are forfeited after the *examen rigorosum*, if the candidate be unsuccessful. The second portion (204 *marks* for the Faculty and 15 *marks* for the University library) may be paid either at the same time with the other or within the period between the *examen rigorosum* and the promotion. In addition to this, the candidate has to pay expenses of printing the dissertation and diploma (*vide* 6 and 8). 10. The shortest time in which the whole of the proceedings for obtaining a doctor's degree can be gone through is ten days. In this case, however, it is stipulated that the dissertation be delivered ready for printing to the Dean at the first application, and that the other business of the Faculty permits them to proceed at once to the examinations.

The Medical Faculty of this University consists of the following professors, with between forty and fifty *docents* or private teachers. *Ordinary Professors:* B. von Langenbeck, Surgery and Clinical Surgery; K. B. Reichert, Anatomy; A. Bardeleben, Surgery and Clinical Surgery; R. Virchow, Pathology; F. T. Frerichs, Medicine and Clinical Medicine; E. Du Bois-Reymond, Physiology; A. Hirsch, Medicine and Epidemiology; E. Leyden, Medicine and Clinical Medicine; C. Schröder and A. Gusserow, Obstetrics and Gynæcology; O. Liebreich, Materia Medica and Chemistry; C. Schweigger, Diseases of the Eye and Ophthalmic Clinic; C. Westphal, Psychology and Psychiatric Clinic. *Extraordinary Professors:* E. Henoch, Diseases of Children; E. Gurlt, Practical Surgery; C. Liman, Forensic Medicine; C. Skrzecka, Hygiene and Medical Police; J. Meyer, Medicine; R. Hartmann, Anatomy; G. Lewin, Diseases of the Skin and Syphilis; H. Jacobson, Medicine; E. Albrecht, Dental Surgery; H. Munk, Physiology; C. A. Ewald, Physical Diagnosis; A. Lucae, Aural Surgery; E. Salkowski, Chemistry; G. Fritsch, Physiology; O. Fränzel, Medicine; H. Senator, Diseases of Children; F. Busch, Surgery; H. Kronecker, Physiology; H. Fasbender, Gynæcology; H. L. Schöler, Ophthalmic Surgery; J. Hirschberg, Ophthalmic Surgery; E. Küster, Surgery; A. Christiani, Physiology. The following professors also give instruction in subjects connected with medicine in the Philosophical Faculty. *Ordinary Professors:* S. Schwendener, Botany; H. Helmholtz, Physics; W. Peters, Zoology; A. W. Hofmann, Chemistry; A. W. Eichler, Botany; C. Rammelsberg, Chemistry. *Extraordinary Professors:* A. Garcke, Botany; L. Kny, Botany; P. Ascherson, Botany; E. von Martens, Zoology; E.

* For much of the information in this and subsequent pages, we are indebted to Dr. Hardwicke's *Medical Education and Practice in all Parts of the World*.

Sell, Chemistry; A. Pinner, Chemistry and Pharmacy; C. Liebermann, Chemistry; L. Wittmack, Botany; C. Jessen, Botany.

The institutions for Clinical treating connected with the University are: Professor von Langenbeck's Clinic for Surgery; the University Polyclinic (Dr. J. Meyer); the Ophthalmic Polyclinic (Dr. Schweigger); the Aural Polyclinic (Dr. Lucae); the Obstetric Clinic (Dr. Schröder); the Institute for Practical Instruction in State Medicine (Dr. Liman); and, in the Charité Hospital, the Medical Clinic (Dr. Frerichs), the Clinic for Elementary Medical Instruction (Dr. Leyden), the Surgical Clinic (Dr. Bardeleben), the Ophthalmic Clinic (Dr. Schweigger), the Obstetric Clinic (Dr. Gusserow), the Gynæcological Clinic (Dr. Schröder), the Clinics for Diseases of the Skin and Syphilis (Dr. Lewin), for Diseases of Children (Dr. Henoch), and for Diseases of the Mind and Nervous System (Dr. Westphal). The Pathological Institute is under the direction of Professor Virchow; the Physiological Laboratory under that of Professor Du Bois-Reymond; the Chemical Laboratory under that of Professor Hofmann; and the Pharmaceutical Laboratory under that of Professor O. Liebreich. The Pathological Institute, which owes its existence in its present form to Professor Virchow, and has served as the model for numerous similar institutions in Germany and elsewhere, is situated within the grounds of the Charité Hospital. It contains a lecture-theatre, a room for demonstrations, a museum, a chemical laboratory, a histological laboratory, a suite of rooms for the *post mortem* examinations, private rooms for the professor and his assistants, while in the basement-floor there are kept animals for experiment.

UNIVERSITY OF BONN.

A DEGREE in Medicine, Surgery, and Midwifery, is granted only under the following conditions, viz.:

1. An examination in all branches of medicine and surgery, of about three hours' duration, in the German language. 2. A written scientific dissertation in German or Latin. 3. Public defence of the dissertation in German or Latin. 4. Fee for the examination and diploma, 360 *marks* (£18), which must be paid prior to examination.

The following are the Professors in the Medical Faculty of this University. *Ordinary Professors:* C. Binz, Materia Medica; W. Busch, Surgery; C. Köster, Pathology; A. de la Valette St. George, Anatomy and Histology; F. von Leydig, Comparative Anatomy; E. Pflüger, Physiology; H. Rühle, Medicine; T. Sämisch, Diseases of the Eye; G. Veit, Gynæcology and Forensic Medicine. *Extraordinary Professors:* C. Finkelnburg, Mental Diseases; J. Doutrelepont, Surgery; C. von Mosengeil, Surgery; F. Obernier, Diseases of Children; H. Schaaffhausen, Physiology; M. Nussbaum, Anatomy and Histology; N. Zuntz, Anatomy and Histology. Instruction is also given in the Philosophical Faculty—*Ordinary Professors:* F. H. Troschel, Zoology; R. Clausius, Experimental Physics; E. Strassburger, Botany; and A. Kekulè, Chemistry. *Extraordinary Professor:* O. Wallach, Chemistry; F. Schmitz, Botany.

Connected with the University are medical, surgical, obstetric, and ophthalmic clinics; an anatomical theatre and museum, and physiological, pathological, pharmacological, and chemical institutes.

UNIVERSITY OF BRESLAU.

THE following Professors belong to the Medical Faculty of this University. *Ordinary Professors:* A. Biermer, Medicine; E. Ponfick, Pathology; H. Fischer, Surgery; R. Förster, Ophthalmic Surgery; H. Häser, Materia Medica and Therapeutics; C. Hasse, Anatomy; R. P. H. Heidenhain, Physiology; Obstetrics and Gynæcology (vacant). *Extraordinary Professors:* L. Auerbach, Comparative Anatomy; H. Cohn, Ophthalmology; H. Friedberg, Forensic Medicine and Public Health; R. Gscheidlen, Physiology and Physiological Chemistry; I. Klopsch, Surgery; O. Simon, Diseases of the Skin and Syphilis; H. Neumann, Psychological Medicine; E. Richter, Surgery; R. Voltolini, Diseases of the Ear; L. Hirt, Forensic Medicine and Hygiene; H. Sommerbrodt, Medicine; O. Berger, Medicine. Instruction is also given in the Philosophical Faculty on subjects connected with medicine by — *Ordinary Professors:* C. J. Löwig, Chemistry; H. R. Göppert, Pharmacology; A. Schneider, Zoology; O. E. Meyer, Experimental Physics; T. Poleck, Chemistry; F. Cohn, Botany. *Extraordinary Professors:* G. W. Körber, Botany; F. E. Dorn, Physics; V. von Richter, Chemistry.

The University possesses anatomical, physiological, pathological, pharmaceutical institutes, and clinics of medicine, surgery, obstetrics, ophthalmic surgery, syphilis and skin-diseases, and mental diseases.

UNIVERSITY OF ERLANGEN.

THE following are the regulations to be observed by candidates for the degree of Doctor of Medicine in this University.

1. Candidates for the degree of Doctor must announce their intention to the Dean of the Faculty of Medicine, and present the following documents: *a.* Evidence of having gone through the curriculum in a German gymnasium, or proof of equivalent general education; *b.* Proof of having studied medicine in one of the German Universities, or in a corresponding medical school abroad, during at least three years; *c.* A thesis, composed by the candidate, on some subject in medicine or natural science, with a written declaration, on word of honour, that the work is absolutely the candidate's own. 2. The dissertation is examined by a referee, appointed by the dean; and, if it be judged to be of sufficient merit, the candidate is admitted to an oral examination, which is conducted in the German language. It may take place in two forms; *a.* As a colloquium, in the case of those who have passed an examination in medicine before a German examining board; *b.* As an extended examination on all departments of medical science, in the case of those who have not passed such an examination. The colloquium takes place under the presidency of the dean before three delegates of the Faculty; the detailed examination is conducted by the dean and four other members of the Faculty. Both the colloquium and the latter examination are held in public, and in German. 3. After the conclusion of the oral examination, the examiners decide on the result. If the decision be favourable, the degree of Doctor is at once conferred, the fact being communicated to the candidate by the dean, and his diploma issued to him. 4. The candidate, if his dissertation be approved, must have it printed at his own expense. At the back of the title-page it must be

stated that the dissertation is printed with the consent of the Faculty; and the name of the reporter (*referent*) must be given. 5. The candidate must pay a fee of 300 *marks* (equal to about £15 10s.) for the granting of the Doctor's degree, and must also deliver 150 copies of his dissertation to the Faculty. 6. If the candidate fail to pass the examination, half of the fee is returned to him.

The Medical Faculty of this University consists of the following professors, with teachers. *Ordinary Professors:* J. von Gerlach, Anatomy; F. A. Zenker, Pathology; W. Heineke, Surgery; I. Rosenthal, Physiology; W. O. Leube, Practice of Medicine and Clinics; H. Sattler, Ophthalmology; P. Zweifel, Midwifery. *Extraordinary Professors:* F. W. H. Trott, Materia Medica and Hygiene; A. Wintrich, Medicine and Laryngology; F. W. Hagen, Psychological Medicine; W. Filehne, Materia Medica and Therapeutics. Instruction in subjects connected with medicine is also given in the Philosophical Faculty. *Ordinary Professors:* E. Lommel, Experimental Physics; J. Volhard, Chemistry; M. Reess, Botany; E. Selenka, Comparative Anatomy; A. Hilger, Pharmacy and Chemistry.

In connection with the University are the following institutions: the University Hospital, with medical, surgical, obstetric, psychiatric, and ophthalmic clinics; an anatomical, a physiological, and a pathological institute.

UNIVERSITY OF FREIBURG.

THE Faculty of Medicine here grants a degree in Medicine, Surgery, and Midwifery. The following are the conditions to be observed before being admitted to examination.

1. A certificate must be produced showing the respectability of the candidate, and also the amount of his education, both prior to and since his admission as a medical student. 2. A scientific dissertation must be handed to the Dean, written in German or Latin. 3. A fee of 300 *marks* (£15) must be paid to the Chief Beadle. In case of rejection, the candidate will receive half the fee back; and when he presents himself for examination again, he pays only that amount, viz., 150 *marks*. Should these conditions be complied with, and the thesis be deemed satisfactory, the candidate will be admitted to a *vivâ voce* examination in the German language.

The following are the subjects for examination: Anatomy, Materia Medica and Toxicology, Physiology, Medicine, Surgery, Pathological Anatomy, Midwifery, Ophthalmology.

If a candidate have already passed an examination as Physician before a German commission of examiners, the number of subjects may be reduced.

If the examination be passed, one of the following grades of honour is conferred: 1. *Summâ cum laude;* 2. *Insigni cum laude;* 3. *Cum laude.*

The Medical Faculty of the University is thus constituted. *Ordinary Professors:* A. Ecker, Human and Comparative Anatomy; L. von Babo, Chemistry and Physiology; R. Maier, Pathological Anatomy and State Medicine; A. Hegar, Midwifery; F. Hildebrand, Botany; W. Manz, Ophthalmic Surgery; Ch. Bäumler, Materia Medica and Medicine; G. F. L. Thomas, Materia Medica and Medicine; H. Maas, Surgery. *Extraordinary Professors:* A. Schinzinger, Surgery; R. Kaltenbach, Midwifery; J. Latschenberger, Physiological Chemistry and Practical Physiology; R. Wiedersheim, Anatomy and Histology; A. Röhrig, Pharmacology; E. Ziegler, Pathological Anatomy; J. von Kries, Physiology; P. Langerhans; J. von Rotteck. In the Philosophical Faculty, lectures on subjects connected with medicine are given by Professors A. Weismann in Zoology, A. Claus in Chemistry, and E. Warburg in Experimental Physics.

The University library contains 250,000 volumes. There are a chemical laboratory and institutions for the practical study of anatomy, pathology, physiology, etc.; and medical, surgical, obstetric, and ophthalmic clinics.

UNIVERSITY OF GIESSEN.

THE Faculty of Medicine grants a degree in Medicine, Surgery, and Obstetrics, which can only be obtained on the following conditions.

1. *A curriculum vitæ*, written by himself, must be sent to the Faculty by the candidate; also a certificate of gymnasial maturity, and a certificate of at least three years' medical and surgical study at an University or a Medical Institution. If the candidate be not a native of Germany, he must produce a certificate of sufficient preliminary studies from his own country in place of the gymnasial maturity certificate (a degree in arts or certificate of having passed the matriculation examination for medical students at any recognised University is sufficient). 2. The candidate must present a dissertation on some medical subject, written in German or Latin, together with a declaration in his own handwriting that he has composed the dissertation himself, without help from others, except what may be stated by him. In place of the dissertation, a previously published treatise or literary production may be substituted. 3. In case of admission by the Faculty, the whole of the documents are laid before the Rector and the Chancellor, who may object to the admission if they be not satisfied. 4. If no objection be made by the Rector and Chancellor, and the candidate have paid the promotion fees to the Quæstor of the University, the dissertation is to be judged by a Referee. If the Referee declare the work to be unsatisfactory, the candidate is rejected. In the contrary case, he is admitted to *vivâ voce* examination before the Faculty. 5. The *vivâ voce* examination takes place in the German language, and lasts two or three hours. It is held in public, except when the candidate is already advanced in age, or in a few other cases when the Faculty decree that it may be held in private. 6. The verbal examination embraces the following subjects: Anatomy, Physiology, Pathological Anatomy, Histology, Pathology and Medicine, Materia Medica and Therapeutics (including Toxicology), Surgical Pathology and Surgery, Forensic Medicine, Obstetrics. 7. Immediately after the conclusion of the examination, the result is decided on by the President and examiners in a private sitting, and at once made known to the candidate by the President. The examination is not passed when two or more members of the Faculty declare the result of the examination to have been unsatisfactory. The kind of degree to be granted is decided by a majority of votes—whether *cum laude, magnâ cum laude*, or *summâ cum laude*. 8. The approved dissertation must be printed and published, and the appointed number be presented to the Faculty before the promotion take place. Exception is made when the candidate has already handed in a printed treatise. 9. Promotions to the M.D. *in absentiâ* do not take place at this University, except in the case of degrees granted *honoris causâ* by the unanimous

decision of the Faculty, to men who have rendered some great service to the science of medicine. 10. The fee for promotion is 440 *marks* (£22), which must be paid to the Quæstor of the University at the time of the petition for admission. If the dissertation be not considered satisfactory, and the candidate in consequence be not admitted to the verbal examination, 100 *marks* are retained by the Faculty. If the verbal examination be not passed, half the fees are forfeited; but, if the candidate present himself again, he has only to pay half the fees.

The following are the professors in the Faculty of Medicine in this University. *Ordinary Professors:* H. Bose, Surgery; J. Wilbrand, Forensic Medicine and Hygiene; C. Eckhard, Physiology and Toxicology; F. Riegel, Medicine; F. Ahlfeld, Obstetrics and Gynæcology; G. Pflug, Veterinary Medicine; F. Marchand, Pathology; F. W. von Hippel, Ophthalmic Surgery; C. Gähtgens, Materia Medica. *Extraordinary Professors:* F. Birnbaum, Diseases of Children; F. Eichbaum, Histology and Veterinary Medicine. There are also two *docents*. In the Philosophical Faculty, subjects connected with medicine are taught by—*Ordinary Professors:* H. Will, Chemistry; H. Hoffmann, Botany; W. C. Röntgen, Experimental Physics; A. Schneider, Zoology. *Extraordinary Professors:* A. Naumann and A. Laubenheimer, Chemistry.

The University Library contains 140,000 volumes. There are an academical hospital, with medical, surgical, and ophthalmic clinics, a lying-in institution, a chemical laboratory, a physiological, a pathological, and a pharmacological institute.

UNIVERSITY OF GÖTTINGEN.

A DEGREE in Medicine, Surgery, and Obstetrics is granted under the following conditions.

1. A written essay must be sent in on any medical subject chosen by the candidate, on the result of which depends the entrance to the examination. 2. If the essay be considered satisfactory, the student is admitted to a *vivâ voce* examination, which lasts a few hours, and is always held in German or Latin, at the option of the candidate. 3. A fee of 439 *marks* (£21 19s.) must be paid to the Medical Faculty prior to examination. 4. The subjects of examination are Anatomy and Morbid Anatomy, Physiology, Pharmacology, General Pathology and Medicine, Surgical Pathology and Surgery, Toxicology, Medical Jurisprudence, and Obstetrics.

If the candidate be successful, he receives a diploma, and promises to hold his academical honour with dignity.

The Medical Faculty of this University consists of the following professors, with private teachers. *Ordinary Professors:* J. Henle, Anatomy; F. Wöhler, Chemistry; G. Meissner, Physiology; H. Schwartz, Midwifery and Diseases of Women; L. Meyer, Psychological Medicine; Th. Leber, Ophthalmic Surgery; W. Ebstein, Medicine; W. Marmé, Materia Medica; F. König, Surgery; J. Orth, Pathology; W. Baum; *Extraordinary Professors:* H. Eichhorst, Medicine and Diseases of Children; C. F. Lohmeyer, Surgery; J. Rosenbach, Surgery; W. Krause, Physiology; E. F. W. Herbst, Physiology; H. Eichhorst, Medicine; T. Husemann, Materia Medica and Toxicology. In the Philosophical Faculty instruction is given by —*Ordinary Professors:* J. B. Listing, Physics; J. Reinke, Botany; F. Ehlers, Zoology; the Count of Solms-Laubach, Botany; H. Hübner, Chemistry. *Extraordinary Professors:* C. Boedecker, Pharmacy and Physiological Chemistry; L. von Uslar, Organic and Pharmaceutical Chemistry; E. Riecke, Experimental Physics; H. J. Esser, Veterinary Medicine; J. Post, Chemistry.

The following institutions are connected with the Medical Faculty: institutions for teaching animal and vegetable physiology and pharmacology, and pathology; the Ernst-August hospital, with medical, surgical, and ophthalmic clinics; a lying-in hospital; a psychiatric clinic in the Lunatic Asylum; a chemical laboratory; and a veterinary institute.

UNIVERSITY OF GREIFSWALD.

THE Medical Faculty of this University consists of the following professors, with teachers. *Ordinary Professors:* J. Budge, Anatomy; H. C. A. Pernice, Midwifery and Diseases of Women; F. Grohé, Pathological Anatomy; F. Mosler, Medicine; C. Hüter, Surgery; L. Landois, Physiology; R. Schirmer, Ophthalmic Surgery; A. Eulenburg, Materia Medica. *Extraordinary Professors:* C Eichstedt, Midwifery, Diseases of the Skin, and Syphilis; W. Häckermann, Forensic Medicine and Hygiene; R. Arndt, Psychology and Nervous Diseases; P. Vogt, Surgery; P. Krabler, Diseases of Children; F. Sommer, Anatomy. Instruction is given in the Philosophical Faculty by—*Ordinary Professors:* A. H. A. J. Münter, Botany; H. Limpricht, Chemistry; H. Schwanert, Chemistry and Pharmacy; A. Gerstäcker, Comparative Anatomy and Zoology. *Extraordinary Professor:* F. Baumstark, Chemistry.

The University Hospital contains medical, surgical, ophthalmic, and obstetric clinics.

UNIVERSITY OF HALLE.

THE following are the regulations for the medical degree.

1. Application for admission to the examinations must be made to the Dean, and at the same time must be presented: (*a*) a *curriculum vitæ*; (*b*) certificate of maturity from a gymnasium; (*c*) certificate of having passed a *tentamen physicum* at least two years previously; (*d*) certificates of leaving, from the Universities, over at least eight medical scholastic half years. Whoever is unable to present these certificates complete, and in the manner specified, must obtain a dispensation from the Chief Manager. 2. On making application, 360 *marks* must be paid to the Dean for the examinations and the promotion, besides which, 12 *marks* must be paid before the promotion to the Secretary of the University. 3. The examinations are held on two consecutive days, by the regular professors of the Faculty, on each of which days the result of the examination is made known to the candidate. 4. After passing his examination, the candidate must compose a scientific treatise on any subject he pleases in medical science, and deliver it to the Dean, together with the theses, to be publicly discussed, and the *curriculum vitæ* for examination and approval; the same when printed must fill at least two quires. The candidate must bear the cost of printing both the treatise and the diploma; but the diploma must be laid before the Dean for approval before being printed. Of the treatise, 172 copies must be delivered to the Secretary of the University at least three days before the promotion, and 40 copies of the diploma, when the Secretary will give a receipt in the name of the Dean, and

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"SPÉCIALITÉ" LIME JUICE

REQUIRES NO SUGAR.

ONE BOTTLE WILL MAKE A GALLON OF LEMONADE.

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IT IS COMBINABLE WITH WINES AND SPIRITS.

The advantages of this New Preparation of the Lime Fruit Juice over others of its kind, are:—

It has no MUSTY FLAVOUR.
It is free from SULPHURIC ACID.
It contains no MEDICINAL SUBSTANCE.
It will keep any time SOUND and BRIGHT after the bottle is UNCORKED.

Exhibited in the International Medical Exhibition, and also in the Museum of the British Medical Association, 1881.

From DR. EDMUNDS, M.D., M.R.C.P. LOND., ETC.; *Medical Officer of Health for St. James's, London; Senior Physician to the Temperance Hospital.*

"FELTOE'S 'SPÉCIALITÉ' LIME JUICE has been much liked at the TEMPERANCE HOSPITAL. As the purified juice of a wholesome fruit, and free from chemical compounds, it is the best thing before the public, and just what has long been wanted as a NON-ALCOHOLIC beverage.

"Taken with filtered or aërated water it makes a drink which is not only DELICIOUS and REFRESHING, but UNIVERSALLY WHOLESOME and UNOBJECTIONABLE.

"I shall prescribe it largely in fever, and as a substitute for fresh fruit in a sick room."

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Importers of the "SPÉCIALITÉ" SHERRY, "free from Acidity and Heat"
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THIS underclothing, made of the finest and purest wool, and woven on the principle of stocking net hosing, is made in shirts and chemises and combination garments for both sexes of all ages. While giving the same amount of warmth as the heavier and old-fashioned woollen garments, it is much pleasanter to wear, avoiding the irritation of the skin, that often results from flannel or the ordinary kind of underclothing; and by the system on which it is woven, it is more porous, and consequently allows a freer passage to bodily exhalations, falling into shape more readily, and therefore more comfortable to wear.

Having achieved such marked success abroad, the Patentees feel sanguine that its introduction into this country, possessing, as it does, a climate so liable to sudden and extreme changes, will obtain results even more satisfactory. At the late Exhibition at South Kensington, it was, for the first time, seen by the British Medical Profession, and by them, as well as their foreign brethren, universally approved; and orders to a large extent were taken.

Testimonials received from all persons who have worn the garments are of the most flattering description, and can be seen at any time at the

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PEPSINE PORCI.

Standard I to dissolve	...	...	50 parts white of egg; 125 parts fibrine.
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SPECIAL REPORT
ON THE
INTERNATIONAL
MEDICAL AND SANITARY EXHIBITION,
SOUTH KENSINGTON.

PHARMACEUTICAL PREPARATIONS, DRUGS, ETC.

By the Medical Press and Circular.

BURROUGHS, WELLCOME, AND CO., No. 2, Western Gallery, and No. 147, West Quadrant.—This is one of the most extensive and interesting collections in the whole Exhibition; it consists of many new and practical improvements in medicine and pharmacy.

This firm represents the principal drug houses of America, and, in introducing their 'latest improvements in pharmacy' to the profession, have adopted a line of practice not hitherto followed by English firms—viz., that of presenting examples of new preparations to practitioners who desire to test them, and by not advertising in any but medical and pharmaceutical journals. This latter will commend itself, as members of the profession are thus assured that their expressions of approval of any preparation will not be published in the lay press. The exhibits of this firm comprise:—

Hazeline, the active principle of Witch Hazel (*Hamamelis Virginica*), is a valuable astringent remedy, wonderfully efficacious in checking internal or external hæmorrhages and for allaying inflammation; it is particularly valuable in the treatment of bleeding-piles, and, as a surgical dressing, it deserves attention.

The *Burroughs' Beef and Iron Wine* is a very valuable nourishing tonic, especially desirable for delicate patients who cannot retain ordinary foods; its flavour has been greatly improved and is very agreeable.

The *Burroughs' Inhaler* is an ingenious and convenient device for inhaling chloride of ammonium fumes; by its use the chloride of ammonium is brought in more intimate contact with the mucous surfaces of the passages of the nose and throat than by any other form of inhaler.

The following houses are also represented:—

JOHN WYETH AND BROS., Philadelphia.—*Wyeth's Compressed Hypodermic Tablets* are entirely new, and are now shown for the first time. Each little tablet contains as a vehicle a quarter of a grain of sulphate of sodium, with morphia, atropia, and other alkaloids usually employed for hypodermic medication. The use of sulph. soda is an advantage over other vehicles, as it promotes absorption without causing pain or irritation, and acts as a disintegrator, forming an almost instantaneous solution with three drops of water.

Wyeth's Compressed Tablets, Chlorate of Potash, Muriate of Ammonia, and various other drugs for throat affections. They are vastly superior to the ordinary sugar or paste lozenges, and on account of their very small size may be easily retained beneath the tongue while using the voice.

Dialysed Iron.—Wyeth's Iron has an established reputation, and is a thoroughly reliable preparation; it has steadily gained favour with the profession.

MCKESSON AND ROBBINS, New York.—*Capsuled Ovoid Pills.*—The ovoid shape is a positive advantage over the round form, as patients, even small children, take them easily after finding it impossible to swallow round pills, even if coated. These pills are completely and hermetically sealed by the continuous covering of gelatine; they do not have pin-holes or other openings penetrating the covering, as we have noticed in some other pills. They are quickly soluble, and certainly the most important improvement yet made in the manufacture of pills.

KEPLER EXTRACT OF MALT CO., London.—The *Kepler Malt* is very delicious to the taste, and has been found by analysis to be exceedingly rich in diastase, and consequently is a valuable digestive agent. The Kepler Malt, combined with cod-liver oil, is the most palatable and easily digested of any form we have yet seen for administering cod-liver oil.

LAWTON AND CO., Boston, U.S.A.—*Lawton's Absorbent Cotton* has been pronounced by some of our most eminent surgeons the very best absorbent for taking up discharges; it is very fine and soft, and acts instantly.

FELLOWS AND CO., New York.—*Comp. Syrup of Hypophosphites* is a decided nerve tonic.

ALFRED BISHOP, London.—*Bishop's Granular Effervescent Citrate of Caffeine* is gaining favour as a remedy for headache.

SYMES AND CO., Liverpool.—*Lac Bismuthi and Lac Bismuthi et Cerii.*—A desirable form for administering these valuable remedies.

MURRAY AND LANMAN, New York.—*M. and L.'s Florida Water.*—This hygienic toilet water possesses decided antiseptic properties. When sprayed through the sick room it destroys offensive germs, purifies the atmosphere, and leaves a delicious and refreshing fragrance.

REPORTS

UPON THE

KEPLER EXTRACT OF MALT

BY THE

HIGHEST MEDICAL AUTHORITIES.

Report of the *London Medical Record* on Kepler Malt Extract:—'Kepler's Extract is liked by patients, and often taken readily when other forms are not retained. It is a good plan to begin with a teaspoonful three times a day, but the dose may be rapidly increased to a tablespoonful or more. One of the best vehicles for taking the Extract of Malt is a little warm milk, but some people prefer it alone, whilst others like it with soda-water. It speedily improves the powers of assimilation, and in cases of consumption, scrofula, and many of the wasting diseases of children, a wonderful improvement in the patient's condition may be noticed after even a fortnight's treatment. The introduction of Kepler's Extract of Malt is a decided advancement in therapeutics.'

Second Report of the *Medical Press and Circular*.—'The Kepler Extract of Malt is very delicious to the taste, and has been found by analysis to be exceedingly rich in diastase, and consequently is a valuable digestive agent. The Kepler Malt, combined with cod-liver oil, is the most palatable and easily digested of any form we have yet seen for administering cod-liver oil.'

From the *British Medical Journal*:—'This improved Extract of Malt has now been under trial for some time in this country, where malt extracts are coming into use, and is very favourably spoken of by physicians, both in respect to its nutritive and digestive properties, and as being of very agreeable flavour. Being prepared at a very low temperature, its qualities are not deteriorated or its flavour spoiled in the preparation. The malt-extracts have long enjoyed a very considerable reputation in Germany, Switzerland, and America; and it is probable that, as English practitioners become more familiar with them, they will to a considerable extent take the place of animal oils, such as cod-liver oil, which are not always easily borne by the stomach, and which it is difficult to render palatable. Combined with cod-liver oil, malt extract appears to increase the nutritive powers of the oil, and to render it more easily digestible. We can recommend the Kepler Extract of Malt as being of a very high quality indeed.'

The *Lancet* says:—'Kepler Malt Extract is very good, and may be used with confidence.' Second Report of the *Lancet* on the Kepler Malt Extract:—'Kepler's Extract of Malt is as distinct an advance in therapeutics as was the introduction of cod-liver oil. It is one of our best remedies for atonic dyspepsia, and is undoubtedly useful in consumption and other wasting diseases.'

From the *Medical Press and Circular*:—'We have on more than one occasion drawn attention to the nutritious properties of Malt Extracts. Their great value consists in the fact that, when taken at or directly after meals, they assist in disposing of the other food, and thus indirectly, as well as directly, nourish and strengthen the whole system. The Kepler Malt Extract is reliable, and is manufactured in such a careful manner as to ensure the preservation of its valuable constituents.'

The *Medical Times and Gazette* reports:—'The Kepler Malt Extract, we venture to say, is by far the best we have seen.'

Professor YANDELL of the University of Louisville, U.S.A., says:—'The "Kepler" Malt Extract is the best, and has the finest flavour of any I have ever seen. It is a very valuable preparation.'

Supplied by respectable Chemists in bottles for 2s. 9d. and 4s. 6d. each. Trial specimens presented to the profession upon request.

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also for the 12 *marks* mentioned under No. 2. 5. The candidates have to request all the examiners personally to be present at the examination, likewise the members of the Faculty, when handing over the printed treatise for promotion. 6. In the application for promotion, the candidate solicts from the Dean, in a few preliminary words, permission to detend his treatise and the theses; and this takes place, then, against two previousiy appointed opponents; after which, those present are also called upon to join in the discussion. After the discussion is ended, the candidate begs the Dean to grant him the degree of Doctor; and this is done by administering the doctoral oath, and delivering the diploma. 7. Whoever fails to pass the examination, which includes all branches of medicine and surgery, will receive back from the fees paid 40¼ *marks;* the rest goes to the Faculty. 8. The time for taking the degree is left for the candidate. He must not, however, exceed one year from the time of passing the examination to the taking of the degree, or else he will have to submit to re-examination, and must pay over again all the fees.

The following professors, with several private teachers, constitute the Medical Faculty of this University. *Ordinary Professors:* L. Krahmer, Materia Medica and Forensic Medicine; Th. Weber, Medicine; R. Olshausen, Obstetrics and Gynæcology; Th. Ackerman, Pathology; H. Welcker, Anatomy; R. Volkmann, Surgery; J. Bernstein, Physiology; A. Gräfe, Ophthalmic Surgery; E. Hitzig, Psychological Medicine; K. J. Eberth, Histology. *Extraordinary Professors:* H. Schwartze, Diseases of the Ear; E. Kohlschütter, Medicine; H. Fritsch, Obstetrics and Gynæcology; E. Harnack, Animal Chemistry and Biology. In the Philosophical Faculty, instruction in Sciences connected with Medicine is given by—*Ordinary Professors:* C. Giebel, Zoology; G. Kraus, Botany. *Extraordinary Professors:* B. Rathke, Chemistry; E. Schmidt, Pharmaceutical Chemistry; A. Oberbeck, Physics.

The University library contains 100,000 volumes. Connected with the University are a chemical laboratory, a botanical garden, a zoological museum, an anatomical theatre and zootomical museum, a lying-in institution, a medico-chirurgical hospital, and physiological, pathological, and pharmaceutical laboratories.

UNIVERSITY OF HEIDELBERG.

THE following are the regulations to be observed for graduation in medicine in this University.

1. In applying for examination for the degree of Doctor, no evidence of previous study is required. 2. The same demands are made of all candidates; the only difference is that the oral examination is shortened if evidence be produced that the candidate has undergone, in the German empire, the *Staats-examen* for license to practise. 3. The subjects of examination are (1) Anatomy; (2) Physiology; (3) Pathological Anatomy; (4) Materia Medica (Pharmacognostics, Pharmacodynamics, and Toxicology); (5) Medicine; (6) Surgery; (7) Midwifery; (8) Ophthalmic Surgery. 4. A candidate may select one of these as the principal subject of his examination. All the other subjects then become secondary. 5. The examination is oral and written. The oral examination can only be conducted in the German language. 6. The written part of the examination consists of a medical dissertation in German or Latin, which must be given in before the oral examination. The dean of the Faculty of Medicine delivers the dissertation (or a scientific publication by the candidate, which may be substituted for it) to a reporter for his opinion. The reporter is authorised to hold a conversation with the candidate on the subject treated of in the work. In voting on the dissertation, the question is put whether it shall be allowed to be printed. If it be printed, the names of the dean for the time being, and of the reporter, must appear on the title-page. 7. The oral examination comprises the principal subject chosen by the candidate, and a certain number of the secondary subjects. The number and selection of the secondary subjects vary, according as the state-examination has or has not been passed. If proof be given that a state-examination has been passed in the German Empire, the candidate is examined in the principal subject, and in three of the secondary subjects, selected by himself. If there be no proof of a state-examination, he is examined in five secondary subjects. Of these, three are fixed—Anatomy, Physiology, and Pathological Anatomy; the other two may be chosen by the candidate. But if one of the three fixed subjects be chosen by the candidate as the principal subject, its place as a secondary subject is taken by another, selected by the candidate. 8. The duration of the oral examination depends on the number of subjects. The candidate is examined on the principal subject for thirty minutes, on each secondary one for fifteen or twenty minutes, according to the judgment of the examiners. 9. On the result of the entire examination, three notes are granted. The first (*summâ cum laude*) can only be granted when the dissertation has received the *imprimatur* of the Faculty. Even when the *imprimatur* has been received, the result of the oral examination may be such as to entitle the candidate to the second vote (*insigni cum laude*) or to the third (*cum laude*). 10. No oath is administered. When the diploma is delivered to the candidate by the dean, he has to give his hand in promise that he will bear his academicial dignity with honour. 11. The cost of the examination, exclusive of that of the diploma, amounts in all to 444 *marks* (about 22*l.* 5*s.*), which must be paid before the commencement of the examination. Of this sum, if the oral examination be not passed, 179 *marks* (about 9*l.*) are returned. 12. The diploma contains a record of the principal subject, the vote on the whole examination, and the judgment on the dissertation.

The Medical Faculty consists of the following professors, with several teachers. *Ordinary Professors:* F. Kehrer, Midwifery; W. Delffs, Chemistry; N. Friedreich, Medicine; C. Gegenbaur, Human and Comparative Anatomy; W. Kühne, Physiology and Histology; O. Becker, Ophthalmic Surgery; Th. von Dusch, Medicine; J. Arnold, Pathology; V. Czerny, Surgery; C. Fürstner, Psychological Medicine. *Honorary Professor:* A. Nuhn, Human and Comparative Anatomy. *Extraordinary Professors:* H. Oppenheimer, Materia Medica; S. Moos, Diseases of the Ears; F. Knauff, Forensic Medicine and Hygiene; H. Lossen, Surgery; A. Weil, Medicine and Diseases of the Skin, and Syphilis; R. Thoma, Pathological Anatomy; H. Braun, Surgery; F. Schultze, Diseases of the Nervous System; A. Jurasz, Diseases of the Throat. In the Philosophical Faculty, instruction in subjects connected with medicine is given by—*Ordinary Professors:* R. Bunsen, Chemistry; H. Kopp, Chemistry; G. Quincke, Experimental Physics; O. Bütschli, Zoology; E. Pfitzer, Botany. *Extraordinary Professors:* A. Bornträger, Phar-

macy; A. Horstmann, Chemistry; R. Kossmann, Zoology.

In connection with the University are a hospital, with medical, surgical, and ophthalmic clinics, an institution for diseases of the ear, a lying-in institution, anatomical, pathological, physiological, and zoological institutes, two chemical laboratories, and a botanical garden.

UNIVERSITY OF JENA.

THE Faculty of Medicine of this University grants a degree in Medicine, Surgery, and Obstetrics, the conditions for which are as follows:

1. Certificate to be given as to the extent of medical studies, and the period of time which has elapsed since their completion (at least six terms). 2. Satisfactory evidence as to character, from the neighbouring head office of police. 3. A written essay upon any subject of medical science, in German or Latin. The same composition may be given up, to be printed afterwards in the form of a dissertation. 4. Matriculation into this University. This is done when, upon fulfilment of the other conditions, the candidate himself makes his appearance. 5. Payment of examination and promotion fees must be made to the amount of 141 *thalers* (about £22). In case the examination is not passed, the promotion fees and 52 *thalers* are returned. The examination will be held in the German language only. It comprises all branches of medicine, viz.: Anatomy, Physiology, Histology, General Pathology, Pathological Anatomy, Special Pathology, Medicine, Therapeutics, Surgery, Obstetrics, etc. When the examination is passed, the student has to give in his dissertation, the subject of which he chooses for himself. The Faculty examines the work to see whether it is worth publication. A dispensation from the Latin or German disputation may be granted, when the examination is very satisfactorily passed. After the essay is printed, and also when the public disputation is over, the making out of the medical diploma takes place. The degree of doctor will only be granted in this University by the Faculty upon fulfilment of the above-named conditions.

The Medical Faculty of this University is constituted as follows. *Ordinary Professors:* F. Ried, Surgery; B. Schultze, Obstetrics; W. Müller, Pathology; W. Preyer, Physiology; O. Hertwig, Anatomy; H. Nothnagel, Medicine. *Honorary Professor:* M. Seidel, Materia Medica. *Extraordinary Professors:* L. Schillbach, Diseases of the Eye and Ear; F. Siebert, Psychology; C. Frommann, Physiology and Histology; C. Bardeleben, Anatomy; P. Fürbringer, Diseases of the Skin and Syphilis; O. Küstner, Gynæcology; H. Kuhnt, Ophthalmic Surgery. Subjects connected with Medicine are also taught in the Philosophical Faculty by—*Ordinary Professors:* G. A. Geuther, Chemistry; E. Häckel, Zoology. *Extraordinary Professors:* E. Reichardt, Chemistry; E. Hallier, Botany; R. Hertwig, Zoology; H. Gutzeit, Chemistry and Pharmacy.

Connected with the University are the Grand-Ducal hospital, lying-in institution, and lunatic asylum; anatomical, zoological, physiological, pathological, and chemical laboratories and museums, etc.

The fees are 5 *marks* a lecture for the whole of the session. Clinics and Demonstrations the same, as a rule.

UNIVERSITY OF KIEL.

THE following are the conditions for obtaining the medical degree:

1. The presentation on application of (*a*) a *curriculum vitæ;* (*b*) certificate of medical studies; (*c*) a scientific treatise; 2. A written examination; 3. A verbal examination before the Faculty; 4. Payment of 360 *marks.*

In this University the Medical Faculty consists of the following professors, with five private teachers. *Ordinary Professors:* C. C. T. Litzmann, Obstetrics and Gynæcology; F. Esmarch, Surgery; H. Quincke, Medicine; V. Hensen, Physiology; A. Heller, Pathology; C. Völckers, Diseases of the Eye; W. Flemming, Anatomy. *Extraordinary Professors:* J. Bockendahl, Forensic Medicine; G. J. F. Edlefsen, Medicine; F. Petersen, Surgery; A. Pansch, Anatomy; F. A. Falck, Materia Medica. Instruction is also given in the Philosophical Faculty by *Ordinary Professors:* C. Himly, Chemistry; K. Möbius, Zoology; A. Engler, Botany; A. Ladenburg, Chemistry.

There are a medico-chirurgical hospital, containing medical, surgical, and ophthalmic clinics, a lying-in institution, and laboratories and museums in connection with the several subjects taught.

UNIVERSITY OF KÖNISBERG.

THE Medical Faculty of this University consists of the following professors, with several private teachers. *Ordinary Professors:* W. von Wittich, Physiology; H. Hildebrandt, Obstetrics and Gynæcology; G. Schwalbe, Anatomy; E. Neumann, Pathology; C. Schönborn, Surgery; B. Naunyn, Medicine; J. Jacobson, Ophthalmic Surgery; M. Jaffé, Medical Chemistry. *Extraordinary Professors:* H. Bohn, Diseases of the Skin; A. W. Grünhagen, Histology; S. Samuel, Therapeutics; S. Pincus, Forensic Medicine; E. Berthold, Diseases of the Eye and Ear; F. R. A. Schneider, Surgery and Military Surgery; B. A. Benecke, Anatomy; E. Burow, Surgery; J. Caspary, Diseases of the Skin and Syphilis. Lectures are also given in the Philosophical Faculty by—*Ordinary Professors:* R. Caspary, Botany; H. Spirgatis, H. Ritthausen, and W. Lossen, Chemistry.

Connected with the University are anatomical, pathological, and physiological institutions, medical, surgical, obstetrical, and ophthalmic clinics; chemical and pharmaceutical laboratories, etc.

UNIVERSITY OF LEIPZIG.

THE Medical Faculty of this University consists of the following professors and a number of private teachers. *Ordinary Professors:* J. Radius, Hygiene and Pharmacology; F. Hofmann, Hygiene; E. Wagner, Medicine; C. S. F. Credé, Midwifery; J. Cohnheim, Pathological Anatomy; C. F. W. Ludwig, Physiology; C. Thiersch, Surgery; E. A. Coccius, Ophthalmic Surgery; W. His, Anatomy; C. W. Braune, Topographical Anatomy; W. Erb, Medicine. *Extraordinary Professors:* H. Sonnenkalb, Forensic Medicine and Hygiene; J. V. Carus, Zoology and Comparative Anatomy; A. Winter, Materia Medica; C. Hennig, Obstetrics; C. H. Reclam, Forensic Medicine and Hygiene; B. G. Schmidt, Surgery; E. F. Wenzel, Anatomy and Histology; J. O. L. Heubner, Medicine; E. R. Hagen, Otology, etc.; A. R. Brenner, Diseases of the Nervous System; P. E. Flechsig, Anatomy and Histology; E. Drechsel, Physiology; C. Weigert,

Medicine; A. Rauber, Anatomy. Instruction is also given in the Philosophical Faculty by—*Ordinary Professors:* W. Hankel, Physics; H. Kolbe, Chemistry; A. Schenck, Botany; R. Leuckart, Zoology; G. Wiedemann, Chemistry. *Extraordinary Professors:* H. Hirzel, Pharmacy; F. A. Zürn, Veterinary Medicine; A. Weddige, Chemistry.

In connection with the University are chemical, physico-chemical, and pathologico-chemical laboratories; a zoological institute, under the direction of Professor Leuckhardt; an anatomical institute, under Professor His; a physiological institute, under Professor Ludwig; and various clinics, etc.

UNIVERSITY OF MARBURG.

ANY one wishing to proceed to the medical degree at this University must send in to the Dean of the Faculty of Medicine the following:

1. A *curriculum vitæ*; 2. A certificate of scientific studies; 3. A certificate of at least four years' study at a recognised University or Medical College; 4. A dissertation in the German language. If these be considered satisfactory by the Faculty, the candidate is then admitted to a *viva voce* examination in the German language. If the examination be satisfactorily passed, the dissertation must be printed, at the candidate's expense, and publicly defended. Three or four printed theses must also be sent in. The cost for the diploma is 330 *marks* (16*l.* 10*s.*)

The following are the professors in the Medical Faculty of this University. *Ordinary Professors:* C. F. von Heusinger, History of Medicine; H. Nasse, Physiology; W. Roser, Surgery; R. Böhm, Medicine; R. Dohrn, Midwifery; N. Lieberkühn, Anatomy; F. W. Beneke, Pathological Anatomy and General Pathology; E. Mannkopff, Pathology and Therapeutics; H. Schmidt-Rimpler, Ophthalmology; H. Kramer, Psychology; E. Kulz, Physiology. *Extraordinary Professors:* G. Wagener, Anatomy; H. Horstmann, Forensic Medicine; H. Lahs, Midwifery. Lectures are also given in the Physiological Faculty by—*Ordinary Professors:* C. Zwenger, Pharmaceutical Chemistry; A. Wiegand, Botany; R. Greeff, Zoology; T. Zincke, Chemistry.

A hospital and various laboratories, etc., for practical instruction are connected with the University.

UNIVERSITY OF MUNICH.

IN granting medical degrees at this University, a distinction is made between those candidates who have already passed a satisfactory public examination as Physicians before a German Commission of Examiners, and those who have not, be they natives or foreigners. From those candidates who have already passed the satisfactory German examination, nothing further is required in order to admit them to compete for the doctorate than the certificate of having passed such examination. The Faculty requires, however, the presentation of a dissertation, written in either the Latin or German language. This is delivered by the Dean to one of the members of the Faculty for examination and judgment, and with his judgment it is circulated amongst the Faculty. If the Faculty approve of it, then it is printed at the expense of the candidate, for the members of the Faculty.

Candidates, however, who have not passed the German 'Approbation-examination' for Physicians must, before being admitted to the doctorate examination, present to the Medical Faculty the following: 1. A gymnasial certificate, or at least such certificate as shows that the candidate has enjoyed a regular education; 2. Certificates of at least four years' attendance at an university or medical institution, and of attendance at the lectures on the principal branches of natural science and medicine; 3. Clinical certificates of the treatment of an internal surgical and eye complaint, and also assistance at a birth; 4. A certificate of the performance of an operation on the dead body, and the application of a bandage; 5. The candidate must then pass a two hours' verbal examination (in the German language) in the following branches, viz.: Anatomy, Physiology, General Pathology and Pathological Anatomy, Materia Medica, Therapeutics, Surgery, Midwifery, Hygiene, Diseases of the Eye; 6. The candidate has also to give in a dissertation, which must be examined by a member of the Faculty to see whether it is worthy of being printed. The printing may be dispensed with at the request of the candidate; 7. The fees for examination and promotion amount, for both kinds of candidates, to 100 *thalers*, 300 *marks*, or 175 *florins* (15*l.*).

The professorial staff of the Medical Faculty of this University is constituted as follows. *Ordinary Professors:* F. X. von Gietl, Medicine; F. C. von Rothmund, Surgery and Clinical Surgery; C. T. von Siebold, Zoology and Comparative Anatomy; F. Seitz, Materia Medica; L. A. Buchner, Pharmacy; M. von Pettenkofer, Hygiene; W. F. C. von Hecker, Midwifery; J. N. von Nussbaum, Surgery and Clinical Surgery; A. von Rothmund, Ophthalmic Surgery; C. von Voit, Physiology; H. von Ziemssen, Special Pathology and Therapeutics; B. von Gudden, Psychology; C. Kupffer, Anatomy; N. Rüdinger, Anatomy; O. Bollinger, Pathology and Hygiene. *Extraordinary Professors:* H. Ranke, Medicine; J. Amann, Midwifery; A. Martin, State Medicine; J. Oertel, Laryngoscopy; H. von Böck, Toxicology; J. Bauer, Medicine. Instruction is also given in the Philosophical Faculty by—*Ordinary Professors:* G. von Jolly, Experimental Physics; C. T. von Siebold, Comparative Anatomy; C. W. von Nägeli, Botany; L. Radlkofer, Botany; A. Bäyer, Chemistry. *Extraordinary Professors:* J. Ranke, Physiology; E. Fischer, Chemistry.

The University is situated in the Ludwigstrasse, is a new building, and contains a library consisting of 500,000 volumes. The chemical laboratory for hygiene is under the direction of Professor von Pettenkofer.

UNIVERSITY OF ROSTOCK.

WHOEVER wishes to graduate as 'Medicinæ, Chirurgiæ, et Artis Obstetriciæ Doctor' at this University, must apply to the Dean of the Medical Faculty, and deliver to him at the same time the following documents.

1. A certificate of having gone through the requisite course of studies in an university. 2. A certificate of examination, testifying to the ability of the candidate in the practice of medicine. 3. A treatise on any subject appertaining to medical science, composed by the candidate himself. A fee of 350 *marks* must be paid to the Faculty at the same time, of which two-thirds will be returned provided the treatise is not deemed satisfactory. The proof of having passed a satisfactory examination in Germany is, under the circumstances, satisfactory. If, however, this document should not appear satisfactory, or cannot be presented at all, the Faculty

require that the candidate be subjected to an examination by the Faculty which shall pretty nearly correspond to the German States' Examination. For this examination, an additional 200 *marks* must be paid to the Faculty. Only for special cases does the Faculty reserve to itself a special form of examination.

The inaugural dissertation must be the candidate's own, and he must append to his treatise a written declaration to that effect. It is not, however, required that the work be composed entirely without assistance: but in this case the literary resources, and also the name of him or them from whom he has received help, must be clearly and distinctly stated. Those essays are considered the best which contribute most to medical or scientific knowledge. After the dissertation has been stamped by the Dean in the name of the Faculty, the same must be printed, at the expense of the author, and at least 125 copies delivered to the Faculty. When the candidate has satisfactorily fulfilled the above conditions, he must introduce his essay, and read it publicly in the Aula, and defend it against any objections that may be made.

Promotions *in absentiâ* cannot be made, except only in the case of a *promotio honoris causâ* for distinguished service to medical science.

The Medical Faculty of this University consists of the following *Ordinary Professors:* H. Stannius; T. Thierfelder, Special Pathology and Therapeutics; H. R. Aubert, Physiology; W. von Zehender, Ophthalmology: F. Schatz, Midwifery; F. S. Merkel, Anatomy; O. Nasse, Chemistry; F. Trendelenburg, Surgery; A. Thierfelder, Pathological Anatomy. *Extraordinary Professor:* J. Uffelmann, Medicine. In the Philosophical Faculty, lectures on subjects connected with medicine are delivered by—*Ordinary Professors:* J. Roeper, Botany; O. Jacobsen, Chemistry; H. Grenacher, Comparative Anatomy and Zoology; and L. Matthiessen, Experimental Physics.

UNIVERSITY OF STRASBURG.

THE following is an extract from the regulations of the University of Strasburg relative to Degrees in Medicine.

Any person desirous of obtaining the degree of Doctor of Medicine can only be admitted to graduation on fulfilling the following conditions. *a.* If he belong to the German empire, he must have completed an academical four years' course of study of Medicine, or of the Natural Sciences. By an unanimous decision of the Faculty, one or two Sessions may be omitted. Foreigners desirous of graduating are not required to have passed through the four years' course if they produce proof of having received instruction equivalent to the course of study in the Medical Faculties of Germany. *b.* He must present a scientific essay (dissertation) composed by himself. *c.* He must undergo the Faculty examination. *d.* He must pay the prescribed fee of 240 *marks.* In his application for graduation, which must be addressed to the Dean, the candidate must produce the evidence referred to in *a*, and forward a scientific memoir on some department of medicine, with a written assurance that it is absolutely his own composition. If the dissertation receive the approval of the Faculty, the candidate is admitted to examination.

The examination is conducted by the ordinary professors, and consists, as a rule, of an oral theoretical examination in all important departments of medicine. If the candidate fail to give satisfaction in the oral examinations, he must, in order to obtain the degree of doctor, again undergo the examination after a time to be determined by the Faculty, but he is not required to present a second dissertation. In the case of candidates who have already passed the State examination, a colloquy before three members of the Faculty may, by the unanimous decision of the Faculty, be substituted for the oral examination.

Degrees in Medicine are not conferred on absent candidates.

If the dissertation be rejected, the candidate receives the whole fee back. If the dissertation be approved, but the candidate fail in the examination, 90 marks are returned to him, but, when he is again admitted to examination, only half that fee is required. After the Faculty examination has taken place and the dissertation has been printed and published, the candidate is formally admitted to the degree of Doctor by the issuing of a printed diploma, the names of the successful candidates being announced. The candidate has to bear the expense of printing the dissertation and of the diploma. There is no public ceremony, and no oath is administered.

Matriculation takes place on the first four Wednesdays of the season, from twelve to one o'clock. After the end of these four weeks, the rector can allow matriculation only on special grounds. Any one desirous of matriculating as a student, and attending the lectures and other instructions given in the University, must, on his arrival in Strasburg, communicate with the Secretary of the University, in order to be inscribed. Other persons desirous of attending the lectures must obtain permission from the respective teachers, and must then at once communicate with the Secretary of the University.

The following are the professors and teachers of the University. *Ordinary Professors:* W. Waldeyer, Human Anatomy and Embryology; J. G. Jössel, Anatomy; F. L. Goltz, Physiology; F. Hoppe-Seyler, Physiological and Pathological Chemistry; O. Schmiedeberg, Pharmacology and Therapeutics; F. von Recklinghausen, Pathological Anatomy and Physiology, and Histology; A. Kussmaul, Medicine and Clinical Medicine; A. Lücke, Surgery and Clinical Surgery; W. A. Freund, Obstetrics and Gynæcology; F. Wieger, History of Medicine, Diseases of the Skin, and Syphilis; A. Aubenas, Obstetrics and Gynæcology; F. Jolly, Psychiatry; L. Laqueur, Diseases of the Eye. *Extraordinary Professor:* O. Kohts, Medicine and Diseases of Children. There are also several *docents.* Instruction in subjects connected with Medical Science is also given in the Faculty of Mathematics and Natural Science by the following—*Ordinary Professors:* O. Schmidt, Comparative Anatomy; A. de Bary, Botany; A. Kundt, Experimental Physics; R. Fittig, Experimental Chemistry. *Extraordinary Professors:* F. Rose, Practical Chemistry; A. Götte, Zoology; C. F. Braun, Physics.

Connected with the University are institutions for the practical study of anatomy, experimental physiology, physiological chemistry, pathology, and pharmacology, and clinics for medicine, surgery, midwifery, mental diseases, diseases of the eye, and syphilis, and diseases of the skin.

UNIVERSITY OF TÜBINGEN.

The Faculty of Medicine here grants a degree in Medicine under the following conditions.

1. The candidate must send in with his application—*a.* A *curriculum vitæ*; *b.* A certificate of having gone through a thorough course of instruction at the Gymnasium or some equivalent institution; *c.* Proof of a sufficient study of medicine at an university, and certificates of having attended the lectures having reference to the subjects of examination. 2. The examination consists of a written and a subsequent verbal one. A legalised proof of having passed a satisfactory examination in medicine and surgery in a foreign country dispenses with the written examination, but not with the verbal one. In no case can a degree be granted *in absentiâ*. 3. In the written examination will be put one question in each of the following subjects: 1. Anatomy; 2. Physiology; 3. Materia Medica; 4. General Pathology and Therapeutics; 5. Two questions in Special Pathology and Therapeutics. In addition to which, if a Doctor's degree in Surgery be required, one question will be put on each of the following subjects: 1. General Surgery; 2. Special Surgery; 3. Surgical Operations; 4. Midwifery. 4. The fees amount to 300 *marks*, including the printing of the diploma, which fee must be paid on application. If the candidate be rejected at the written examination, and be not admitted to the verbal one, the whole of the fees will be returned. If he be rejected after the verbal one, only half will be returned. 5. The candidate must compose a dissertation under the presidency of a member of the Faculty, and get it printed; 250 copies are to be presented to the University. If, however, the essay be published either in a periodical or as a special pamphlet, 100 copies will suffice, but they must be provided with a special title-page. Only such candidates as have given numerous and satisfactory literary proofs of their capacity can be allowed to dispense with the composition.

The Medical Faculty of this University consists of the following professors, with private teachers. *Ordinary Professors:* V. von Bruns, Surgery; K. von Vierordt, Physiology; J. von Säxinger, Midwifery; C. von Liebermeister, Medicine and Materia Medica; T. H. Jürgensen, Medicine and Diseases of Children; A. Nagel, Ophthalmology; P. J. W. Henke, Anatomy; Pathology (vacant). *Extraordinary Professors:* O. Oesterlen, Forensic Medicine and Hygiene; P. Bruns, Surgery. Lectures are also given on subjects connected with Medicine in the Faculty of Natural Science by—*Ordinary Professors:* F. von Reusch, Experimental Physics; T. Eimer, Zoology; C. G. Hüfner, Chemistry; L. Meyer, Chemistry; W. Pfeffer, Botany; and *Extraordinary Professor:* — Hegelmaier, Botany.

A hospital and institutions for practical instruction are connected with this University.

UNIVERSITY OF WÜRZBURG.

Before being admitted to the examination for the Doctorate of Medicine, Surgery, and Midwifery, the candidate must pass the medical approbation examination, which consists in showing—by testimonials or certificates—that he has a good moral character, and that he has passed through four years' study at an University, six sessions of which must have been devoted to medical studies. Upon fulfilment of these conditions, the candidate will be admitted to a written and *vivâ voce* examination, before which, however, he must pay to the Faculty 300 *marks* (15*l.*) The written examination consists in the composition of an essay on some subject in theoretical or practical medicine, which dissertation must be handed to the Dean, who will give it to one of the examining professors to report on. It is customary for the dissertation to be printed. If the decision of the reporter with regard to the theme be unfavourable, admission to the *vivâ voce* examination is denied, and another theme must be composed and handed in at a future time. Should the second theme, however, be deemed unsatisfactory, the candidate will not be allowed to reappear. He then receives back all his fees except 30 *marks*. If the dissertation be approved by the Faculty, the candidate is admitted to a *vivâ voce* examination in the German language, which consists of the following subjects: Anatomy and Pathological Anatomy, Physiology, Pathology and Medicine, Special Therapeutics, Surgery, Obstetrics and Ophthalmology. A knowledge also of Psychology and State Medicine is required. After taking the examination oath, the result and standing of the examination is imparted to the candidate by the Dean—whether very good, good, or moderate.

When the candidate is unsuccessful at the *vivâ voce* examination, he receives back half the fees, and is allowed to present himself for examination again in six months' time by paying half the fees again. Only one more attempt is, however, allowed after the first rejection at the *vivâ voce* examination.

After successful examination, the candidate receives his diploma of doctor.

In this University, the Medical Faculty consists of the following professors, with several *docents*. *Ordinary Professors:* F. von Rinecker, Syphilis and Diseases of the Skin, also Psychiatry; A. von Kölliker, Anatomy; F. W. Scanzoni von Lichtenfels, Midwifery; E. von Bergmann, Surgery and Clinical Surgery; A. Fick, Physiology; C. Gerhardt, Medicine and Clinical Medicine, and Diseases of Children; G. E. Rindfleisch, Pathological Anatomy, General Pathology, and History of Medicine; J. Michel, Ophthalmic Surgery; A. Geigel, Clinical Medicine and Hygiene; M. Rossbach, Materia Medica. *Extraordinary Professors:* A. F. von Troltsch, Aural Surgery; W. Reubold, Forensic Medicine. Lectures are also given in the Philosophical Faculty by—*Ordinary Professors:* J. Sachs, Botany; J. Wislicenus, Chemistry; C. Semper, Zoology; F. Kohlrausch, Experimental Physics; and *Extraordinary Professor:* L. Medicus, Chemistry.

AUSTRO-HUNGARIAN EMPIRE.

GRADUATION IN MEDICINE.

The Universities of the Austro-Hungarian Empire which possess Medical Faculties and grant degrees in medicine are: Agram (Croatia), Gratz (Styria), Innsbrück (Tyrol), Cracow, Lemberg (Galicia), Pesth (Hungary), Prague (Bohemia), and Vienna.

All the Universities are under Government control, and the degree of Doctor of Medicine obtained at any of them alone gives the right to practise medicine in the empire.

The course of study required of candidates for the degree of Doctor of Medicine in the Universities of the Austrian Empire extends over five years, or five

winter and five summer terms or *semesters*. The following arrangement is recommended by the Government. (The first, third, fifth, seventh, and ninth are winter *semesters:* the others are summer *semesters.*) 1st *Semester:* Systematic Anatomy; Experimental Physics Inorganic Chemistry; General Botany: Dissections. 2nd *Semester:* Systematic Anatomy (second part); Experimental Physics (second part); Organic Chemistry; Special Botany; Mineralogy; Practical Introduction to Chemical Analysis; Practical Introduction to the Use of the Microscope. 3rd *Semester:* Physiology; Histology; Medical Chemistry; Zoology; Dissections. 4th *Semester:* Physiology (second part); Embryology; Exercises in Physiology; in Histology; and in Medical Chemistry. 5th *Semester:* General Pathology and Therapeutics; Pharmacology; Pathological Anatomy; Pathological Histology; *Post mortem* Examinations; Practical Introduction to the Physical Examination of Patients. 6th *Semester:* Pathological Anatomy (second part); Special Pathology, Therapeutics, and Clinic of Internal Diseases; Special Surgical Pathology, Therapeutics, and Clinic; *Post mortem* Examinations; Exercises in Pathological Histology. 7th *Semester:* Special Pathology, Therapeutics, and Clinic of Internal Diseases; Special Surgical Pathology, Therapeutics, and Clinic; Diseases of the Eye; Exercises in Surgical Anatomy; (Operations). 8th *Semester:* Internal Diseases; Surgery or Diseases of the Eye; Surgical Operations; (Surgical Anatomy). 9th *Semester:* Internal Diseases; Surgery; Theory and Practice of Obstetrics and Gynæcology; Forensic Medicine; (Exercises in Obstetric Operations); Medico-Legal Exercises. 10th *Semester:* Clinics of Diseases of Children; of Diseases of the Skin; and of Syphilis; (Obstetrics and Gynæcology); Exercises in Obstetric Operations; (Medico-Legal Exercises). Of the subjects included in brackets, one course only is required, which may be attended in either a winter or a summer term, at the option of the student.

Candidates for the degree of Doctor of Medicine are required to undergo three examinations (*rigorosen*). Before being admitted, the candidate must produce (*a*) his certificate of birth or baptism, and evidence (*b*) of having received a sufficient preliminary education in one of the institutions of the countries comprised in the empire, or, if he do not belong to any of these, evidence of having matriculated as an ordinary student in a Faculty of Medicine; (*c*) evidence of having attended lectures in a medical school during at least four sessions, and of having dissected during two sessions; (*d*) of having passed, at one of the Universities of the empire, three examinations, in Botany, Zoology, and Mineralogy. Before being admitted to the second examination, he must produce evidence of having been engaged five years in professional study, and of having studied Clinical Medicine and Clinical Surgery, each during four sessions, and Clinical Ophthalmology and Clinical Midwifery, each during at least one session; and of having passed the first examination.

The first examination embraces Physics, Chemistry, Anatomy, and Physiology. There is a practical examination on Anatomy and Physiology, and a theoretical examination on all four subjects.

The second examination includes General Pathology and Therapeutics, Pathological Anatomy and Histology, Pharmacology (pharmacodynamics, toxicology, and prescribing), and the Pathology and Therapeutics of internal diseases. The candidate is examined practically in Pathological Anatomy (with preparations and on the dead body), and in Medicine (at the bedside); and theoretically in all the subjects.

The third examination embraces Surgery, Ophthalmic Surgery, Midwifery and Diseases of Women, and Forensic Medicine. The examinations in Surgery, Ophthalmic Surgery, and Midwifery, are practical; and there are theoretical examinations in all the subjects.

All these examinations must take place at the same University. In very exceptional circumstances only is a candidate allowed to pass the second or third examination at another University than that at which he has passed the first.

The examinations are public, and are conducted by a President, the regular examiners, extraordinary examiners when required by the number of candidates, the Government commissioner, and at the second and third there is a co-examiner appointed by the Government. Each member of the commission examines for a quarter of an hour.

A candidate is not admitted to the theoretical examination unless he has satisfied the examiners in the practical one. If he fail at the practical examination, he may present himself again at the end of six months; if again rejected, six months must elapse before he can be again examined. A candidate rejected at the theoretical examination by one examiner only may be re-admitted to examination in the subject in which he is deficient, at the end of two months. If again rejected, he cannot be again examined in less than four months. If rejected at the theoretical examination by more than one examiner, he may re-appear a second and third time at intervals of six months. A rejected candidate can, however, be examined a third time, whether in practice or in theory, with the sanction of the minister of public instruction, and the consent of the college of professors; and if he then fail, he is debarred henceforth from obtaining a degree in medicine in any of the Universities of the empire.

The fee for the first examination is 55 florins, for the second 60 florins, and for the third 65 florins (Austrian). The promotion fees for the Doctorate amount to 60 Austrian florins. The total fee for the M.D. degree is about £23 of English money.

UNIVERSITY OF VIENNA.

In this University, the Medical Faculty is constituted as follows. *Ordinary Professors:* E. von Brücke, Physiology; F. von Arlt, Ophthalmic Surgery; E. Albert, Practical and Clinical Surgery; C. Langer, Descriptive and Topographic Anatomy; C. R. Braun von Fernwald, Theory and Practice of Midwifery; H. von Bamberger, Special Medical Pathology, Therapeutics, and Clinical Medicine; Pathological Anatomy (vacant); A. Duchek, Special Medical Pathology and Therapeutics, and Clinical Medicine; J. Späth, Theory and Practice of Midwifery; C. Stellwag von Carion, Ophthalmic Surgery; Th. Billroth, Practical and Clinical Surgery; G. Braun, Midwifery (for Midwives); E. Hofmann, Forensic Medicine; C. Sigmund von Ilanor, Syphilology; C. Wedl, Histology; S. Stricker, Experimental and General Pathology and Therapeutics; Th. Meynert, Psychiatry and Nervous Diseases; A. E. Vogl, Pharmacology and Pharmacognosy; E. Ludwig, Chemistry; M. Kaposi, Diseases of the Skin, and Syphilis. *Extraordinary Professors:* E. Jäger von Jaxthal, Ophthalmic Surgery; J. Seegen,

Balneology; C. Cessner, Use of Instruments and Bandages; H. Zeissl, Syphilology; M. F. Röll, Contagious Diseases; L. Schlager, Psychiatry; F. Müller, Veterinary Medicine; L. Dittel, Surgery; H. Widerhofer, Diseases of Children; M. Leidesdorf, Psychiatry; M. Schwanda, Medical Physics; M. Benedikt, Electro-Therapeutics and Neuro-Pathology; S. Stern, Elementary Clinical Instruction; A. Politzer, Aural Surgery; J. Grüber, Aural Surgery; J. Weinlechner, Surgery; G. Löbel, Clinical Medicine; S. L. Schenk, Embryology; A. Drasche, Epidemiology; A. R. von Mosetig-Moorhof, Surgery; J. Nowak, Hygiene; C. Stoerk, Laryngoscopy; L. von Schrötter, Diseases of the Chest and Larynx; H. Auspitz, Diseases of the Skin and Syphilis; I. Neumann, Diseases of the Skin and Syphilis; F. Salzer, Surgery; S. Exner, Physiology; M. Rosenthal, Diseases of the Nervous System; C. Mayrhofer, Midwifery and Gynæcology; G. Wertheim, Diseases of the Skin and Syphilis; S. von Basch, Experimental Pathology; T. Puschmann, History of Medicine; J. Schnitzler, Medicine; R. Chrobak, Gynæcology; K. von Rokitansky, Pathology; L. Bandl, Obstetrics and Gynæcology; E. Zuckerkandl. The following private teachers have the title of professor; A. Reder, Syphilis and Diseases of the Skin: L. Mauthner, Ophthalmic Surgery; C. Böhm, Surgery; E. Stoffella, Special Pathology and Therapeutics; L. M. Pollitzer, Diseases of Children; W. Wonternitz, Medicine. There are also between eighty and ninety private teachers, adjuncts, and assistants. In the Philosophical Faculty, lectures on subjects connected with medicine are given by—*Ordinary Professors:* K. von Brühl, Zoology; L. K. Schmarda, Zoology; K. Claus, Zoology and Comparative Anatomy; J. Stefan, Physics; V. von Lang, Physics; J. Loschmidt, Physics and Chemistry; J. Wiesner, Vegetable Anatomy and Physiology; A. Lieben, Chemistry; L. Barth von Barthenau, Chemistry; A. Kerner von Marilaun, Botany; J. Böhm, Botany. *Extraordinary Professors:* H. W. Reichardt, Botany; F. Brauer, Chemistry; F. Exner, Physics; E. Lippmann, Chemistry; E. von Somaruga, Chemistry.

The General Hospital (*Allegemeine Krankenhaus*) is capable of accommodating about 2,000 patients. There are two medical clinics, under Professors Duchek and von Bamberger; two surgical clinics, one of which is under Professor Billroth; a clinic for Diseases of the Eye, under Professors von Arlt and Stellwag von Carion; and three clinics for Obstetrics—two for students being under the charge of Professors Carl Braun-Fernwald and Späth, and one for Midwives under Professor Gustav Braun. The clinics for Diseases of Women are under the charge of Professors Braun-Fernwald and Späth. There are also special clinics for Syphilis, under Professor Sigmund; for Laryngoscopy, under Professor Schrötter; for Diseases of Children, under Professor Widerhofer; for Psychology, under Professor Meynert; and for Otology, under Professor Grüber. A considerable portion of the school is also situated within the hospital; thus there are the Pathological Museum and *post mortem* room, under the direction of the professor of Pathology; the room for medico-legal necropsies, under Professor Hofmann; the Institute for Experimental Pathology, under the direction of Professor Stricker; and the Institute of Chemical Pathology, under Professor Ludwig. The Anatomical Institute and Dissecting Room, under the direction of Profession Langer; the Physiological Institute, where the Practical Physiology is carried on under Professor Brücke; the Materia Medica Museum, and the Medical Library are outside the hospital, in the Alsergrund.

The great clinics on medicine, surgery, etc., are conducted during the two sessions, from the middle of October to the middle of March, and from the middle of April to the end of July. They are under the immediate direction of the Professors of the Medical Faculty, and constitute, of course, an essential part of the curriculum of study for the ordinary Austrian student.

The special courses of instruction are most numerous during the regular academical sessions, but there are always some going on, even in August and September. They last usually from four to eight weeks. The courses are given for the most part by the private lecturers and the professors' assistants, and the material for them is derived from the wards of the clinical professors. For a six or eight weeks' course, the fee is usually from fifteen to twenty florins. The instruction in them is demonstrative or practical, involving the use of instruments and apparatus by the students themselves. Clinical instruction on children's diseases is given at the St. Anne's Hospital. This and many other of the courses are often attended by students for a second or even third time. A student desirous of occupying his time to the best advantage at Vienna must be prepared to expend a considerable sum in fees.

Vienna affords great opportunities for the study of pathological anatomy. There are separate *post mortem* rooms for the cases from the clinical wards, medico-legal cases, and the ordinary cases. At the two former, the clinical professor or assistant is usually in attendance. The examinations go on all the morning, there being sometimes as many as a dozen in one day.

Besides the General Hospital, Vienna possesses the Wieden Hospital (600 beds), the Rudolf Institution for the Sick (*K. K. Krankenhaus Rudolfstiftung*) (860 beds), the Lunatic Asylum, the General Polyclinic or Dispensary, the Lying-in Hospital, the Leopoldstädt Children's Hospital (90 beds), the Crown Prince Rudolf Children's Hospital (40 beds), St. Joseph's Children's Hospital at Wieden (100 beds), St. Anne's Children's Hospital (100 beds), etc.

UNIVERSITY OF BUDA-PESTH.

THE Medical Faculty of this University consists of the following professors. *Ordinary Professors:* J. Lenhossek, Anatomy; G. Mihalkevics, Anatomy; G. Scheuthauer, Pathological Anatomy; E. Jendrassik, Physiology; K. Balogh, Pharmacognosy and General Pathology; T. A. Lumnitzer, Surgery; T. Kézmarszky, Obstetrics; J. Wagner and F. Koranyi, Medicine and Clinical Medicine; J. Kovacs, Surgery; W. Schulek, Ophthalmic Surgery; J. N. Rupp, Forensic Medicine; J. Fodor, Hygiene; J. Bókai, Diseases of Children; T. Margó, Histology. *Extraordinary Professors:* L. Gebhardt, Diseases of the Chest; E. Poor, Diseases of the Skin; E. Navratil, Rhinoscopy and Laryngoscopy; T. Bakody, P. Plósz, Physiological and Pathological Chemistry; D. Nedelko, Dental Surgery; J. Böke, Aural Surgery; E. Schwimmer, Diseases of the Skin and Syphilis. There are also several *docents.*

UNIVERSITY OF CRACOW.

THE Medical Faculty of this University consists of the following professors, with several *docents. Ordi-*

nary Professors: E. Korczynski, Special Pathology and Therapeutics; J. Mikuliez, Surgery; G. Piotrowsky, Physiology and Histology; L. Teichmann, Descriptive Anatomy; M. Madurowicz von Jelita, Midwifery and Gynæcology; S. Janikowski, Forensic Medicine; L. Rydel, Ophthalmic Surgery; A. Stopczanski, Medical Chemistry; A. Adamkiewicz, General and Experimental Pathology; L. Blumenstock, Forensic and State Medicine. *Extraordinary Professors:* A Rosner, Diseases of the Skin and Syphilis; J. Oettinger, History of Medicine; M. L. Jakubowski, Diseases of Children; S. Domanski, Diseases of the Nervous System; T. Browicz, Pathological Anatomy. There are also several *privat-docents* and assistants.

UNIVERSITY OF GRATZ.

In this University, the Medical Faculty consists of the following professors, with about 12 *docents. Ordinary Professors:* A. Schauenstein, Forensic Medicine; (Vacant) Descriptive and Topographical Anatomy; K. von Rzehaczek, Surgery; C. von Helly, Midwifery and Gynæcology; A. Rollett, Physiology and Histology; C. Blodig, Ophthalmic Surgery; O. Rembold, Medicine; H. Kundrat, Pathological Anatomy; C. von Schroff, Materia Medica and Therapeutics; C. B. Hoffmann, Medical Chemistry; V. von Ebner, Histology and Embryology; R. von Krafft-Ebing, Psychiatry. *Extraordinary Professors:* J. von Koch, Epidemic Diseases and Sanitary Police; E. Lipp, Diseases of the Skin; R. Klemensiewicz, Experimental and General Pathology; E. Börner, Obstetrics and Gynæcology.

Connected with the University are anatomical, physiological, pathological, and zoological institutes; medical, surgical, ophthalmic, obstetric, and gynæcological clinics; a laboratory for physiological and pathological chemistry; a chemical laboratory, etc. The hospitals are: the general hospital (700 beds); a lying-in hospital (120 beds); the town hospital (80 beds); a children's hospital (80 beds); and two infirmaries (245 beds).

UNIVERSITY OF INNSBRUCK.

The following professors belong to the Medical Faculty. *Ordinary Professors:* C. Dantscher von Kollesberg, Anatomy; — Schauter (acting); Obstetrics and Gynæcology; A. Tschurtschenthaler, General Pathology and Pharmacology; M. von Vintschgau, Physiology; F. Schott, Pathological Anatomy; C. Nicoladoni, Clinical Surgery; I. Schnabel, Ophthalmic Surgery; P. von Rokitansky, Medicine. *Extraordinary Professors:* F. Wildner, Veterinary Medicine; J. Oellacher, Histology and Embryology; E. Lang, Syphilology and Dermatology; M. Dietl, Experimental Pathology; W. Löbisch, Medical Chemistry.

The ordinary laboratories, clinics, and other means of practical instruction, are possessed by this University. There are a general hospital (204 beds), and a lying-in hospital (130 beds).

UNIVERSITY OF KLAUSENBURG.

The Medical Faculty of this University consists of the following professors. *Ordinary Professors:* A. Török, Anatomy; F. Klug, Physiology; A. Genersich, Pathology; A. Högyes, Pharmacy; S. Purjesz, Medicine; J. Brandt, Surgery; A. Szilágyi, Ophthalmic Surgery; J. Maizner, Obstetrics; A. Ajtai, Forensic Medicine; E. Geber, Diseases of the Skin and Syphilis. *Extraordinary Professor:* J. Ossikovsky, Chemistry and Toxicology. *Supplementary Professor:* L. Davida, Anatomy.

UNIVERSITY OF PRAGUE.

The Medical Faculty of this University consists of the following professors, with several *docents. Ordinary Professors:* Th. Eiselt and A. Pribram, Clinical Medicine; C. Gussenbauer, Surgery and Clinical Surgery; J. Halla, Clinical Medicine; J. Streng, Midwifery; S. Strupi, Veterinary Medicine; J. Hasner von Artha, Ophthalmic Surgery; Ph. Knoll, General Pathology and Therapeutics; J. Maschka, State Medicine; E. Hering, Physiology; F. Weber von Ebenhof, Midwifery; C. H. Huppert, Medical Chemistry; E. Klebs, Pathological Anatomy; A. Breisky, Midwifery; C. Toldt, Anatomy and Histology. *Extraordinary Professors:* J. Lerch, Forensic, Physiological, and Pathological Chemistry; G. Ritter von Rittershain, Diseases of Children; J. Kaulich, Diseases of Children; S. Mayer, Physiology; P. J. Pick, Skin-Diseases and Syphilis; E. Zaufal, Aural Surgery; J. Fischel, Psychiatry; J. Eppinger, Pathological Anatomy; W. Weiss, Surgery; C. Weil, Surgery.

Connected with the University are an anatomical theatre; pathological, physiological, medico-chemical, and zoo-chemical institutes; medical, surgical, ophthalmic and dermatological clinics (one of the medical clinics being Bohemian); obstetric clinics for practitioners and for midwives, etc. The hospitals are: the general hospital (948 beds), with the affiliated hospital of the Bohemian sisters (220 beds); the Franz-Josef Children's Hospital (100 beds); the Israelite General Hospital (52 beds); the hospital of the Brothers of Mercy (166 beds); the hospital of the Elizabethan sisters (60 beds); the public lunatic asylum (1,348 beds); the lying-in hospital (322 beds for mothers and 176 for children).

SWITZERLAND.

GRADUATION IN MEDICINE.

In Switzerland, degrees in Medicine are granted in the Universities of Basle, Berne, Geneva, and Zurich. These degrees do not confer a licence to practise, for which a separate examination is required.

UNIVERSITY OF BASLE.

The degree of Doctor of Medicine, Surgery, and Midwifery, granted by this University, can only be obtained with the fulfilment of the following conditions.

1. Application for admission to the examination must be made to the Dean of the Faculty, in writing, enclosing: *a.* A 'curriculum vitæ'; *b.* The academical matriculation of this place; *c.* Certificates of attendance at the academical lectures; *d.* A certificate of conduct from the High School in which the candidate has made his principal studies; *e.* A scientific treatise on any subject he chooses within the sphere of medical or natural science. 2. The examination is partly written (*tentamen*) and partly verbal (*rigorosum*). 3. The written examination consists in the answering of five questions having reference to Anatomy, Physiology, Pathological Anatomy and Pathological Physiology, Special Pathology and Therapeutics, and Surgery. 4. In case of rejection, the Faculty can appoint a time for

a repetition of the examination, before which time the candidate cannot be re-examined. 5. The whole of the professors of the Faculty are invited to the verbal examination. The following are the subjects: Anatomy, Physiology, Pathological Anatomy and Physiology, Special Pathology and Therapeutics, Materia Medica, Surgery, Midwifery. 6. The examination by one examiner must not last longer than half an hour. 7. The degrees in which doctorships are granted are 'Summâ cum laude', 'Insigni cum laude', 'Magnâ cum laude', 'Cum laude', and 'Rité'. 8. In adjudicating on both the written and verbal examination, not only will the special knowledge in the respective branches be taken into consideration, but also the possession of a general scientific knowledge, and especially a comprehensive knowledge of Natural Science. 9. One hundred and twenty copies of the treatise must be delivered to the Faculty. 10. Promotions are not granted to applicants who have not passed the examinations here; but the Faculty can confer the degree of doctor on notable and eminent physicians *honoris causâ*. 11. The fees for the examination amount to 350 *francs*, viz., 100 for the *tentamen*, 200 for the *rigorosum*, and 50 for the promotion. 12. If the candidate be rejected after either examination, he forfeits the fees. The re-examination is free of charge.

The following are professors in the Medical Faculty of this University. *Ordinary Professors:* F. Miescher, senior, Pathological Anatomy; L. Rütimeyer, Comparative Anatomy and Zoology; A. Socin, Surgery and Clinical Surgery; H. Immermann, Medicine and Clinical Medicine; J. Kollmann, Anatomy; J. J. Bischoff, Obstetrics and Gynæcology; F. Miescher, junior, Physiology and Physical Chemistry; M. Roth, General Pathology and Pathological Anatomy; L. Wille, Psychiatry; H. Schiess, Ophthalmic Surgery. *Extraordinary Professors:* I. Hoppe, Therapeutics; E. Hagenbach-Burckhardt, Diseases of Children; R. Massini, Polyclinic and Prescribing; A. Burckhardt-Merian, Diseases of the Ear; C. Schulin, Histology. There are also several private teachers. Lectures on subjects connected with Medicine are given in the Mathematical and Scientific Department of the Philosophical Faculty by—*Ordinary Professors:* E. Hagenbach-Bischoff, Experimental Physics; J. Piccard, Chemistry; and H. Vöchting, Botany. *Extraordinary Professor:* F. Krafft, Chemistry.

Connected with the University are the town hospital, where clinics for medicine, surgery, diseases of the eye, mental diseases, and midwifery are conducted; a hospital for diseases of children, and institutions for practical instruction in physiology, pathology, chemistry, and botany.

UNIVERSITY OF BERNE.

BEFORE admission to examination for the Degree in Medicine and Surgery, the candidate must submit to the Faculty of Medicine a manuscript dissertation of scientific value. If this be accepted, he must, after producing evidence of general, scientific, and medical education, be examined *vivâ voce* in Anatomy, Physiology, Pathological Anatomy, Legal Medicine, General Pathology and Medicine, Surgical Pathology and Surgery, Materia Medica, and Ophthalmology.

The Medical Faculty of this University is constituted of the following professors and about thirteen *docents*. *Ordinary Professors:* G. Valentin, Physiology; C. Emmert, Forensic Medicine and Hygiene; C. Aeby, Human and Comparative Anatomy; T. Kocher, Surgery; T. Langhaus, Pathological Anatomy; L. Lichtheim, Medicine; P. Müller, Midwifery; A. Vogt, Hygiene; E. Pflüger, Ophthalmic Surgery; M. von Nencki, Physiological Chemistry. *Extraordinary Professors:* E. Schärer, Psychiatry; R. Demme, Diseases of Children. There are several private teachers. Instruction in subjects connected with medicine is also given in the Mathematical and Scientific Department of the Philosophical Faculty by—*Ordinary Professors:* V. Schwarzenbach, Chemistry and Pharmacy; L. Fischer, Botany; A. Forster, Experimental Physics; T. Studer, Zoology.

Medical, surgical, obstetric, and special clinics, and physiological, pathological and clinical laboratories, etc., are connected with the University.

UNIVERSITY OF GENEVA.

THE University of Geneva grants the degrees of Bachelor in Medical Science and Doctor of Medicine.

The following classes of persons are admitted as students in the Faculty of Medicine: 1. Bachelors in Letters; 2. Bachelors in Science; 3. Students who have attended during two years' lectures in the Section of Philosophy, and have undergone the examinations at the end of each year; 4. Pupils from the Classical Section of the Gymnasium, with certificates of Studies; 5. Swiss and strangers who give evidence of their studies by means of diplomas or certificates; 6. Persons who undergo satisfactory oral examinations in the subjects comprehended in the classical section of the Gymnasium. 7. Persons who furnish evidence that they have studied abroad, for a year at least, in a corresponding faculty, may be inscribed in the Faculty of Medicine.

The course of study is as follows: *First Year: Winter Session:* Botany (first part); Physics (first part); Comparative Anatomy or Zoology; Inorganic Chemistry; Practical Comparative Anatomy. *Summer Session:* Botany (second part); Physics (second part); Comparative Anatomy or Zoology; Organic Chemistry (first part); Practical Chemistry; Botanical Excursions. *Second Year: Winter Session:* Descriptive Anatomy (first part); Physiology (first part); Organic Chemistry (second part); Dissections. *Summer Session:* Descriptive Anatomy (second part); Physiology (second part); Practical Chemistry and Practical Comparative Anatomy. (Students are recommended to attend, in addition, courses of other subjects, such as Astronomy, Geography, Physics, Mineralogy, Geology, etc.) *Third Year: Winter Session:* Descriptive Anatomy (third part); Normal Histology; Dissection. *Summer Session:* Regional Anatomy; Embryogeny. Supplementary courses on subjects of the preceding years, on which the student's knowledge is weak; Practical Physiology, Histology, Comparative Anatomy, and Chemistry. (The examination for Bachelor in Medical Sciences is now undergone.) *Fourth Year: Winter Session:* General Pathology; Internal Pathology; External Pathology; Dissection of Regions; Medical and Surgical Hospital Practice. *Summer Session:* Special Pathological Anatomy; Pathological Histology; Internal Pathology; External Pathology; Pharmacology; Medical and Surgical Hospital Practice; Exercises in the Laboratory of Pathological Histology. *Fifth Year: Winter Session:* Therapeutics; Hygiene; Legal Medicine; Theory of Obstetrics; Internal Pathology;

External Pathology and Operations; Medical and Surgical Hospital Practice. *Summer Session:* Therapeutics; Legal Medicine; Internal Pathology; External Pathology; Medical and Surgical Hospital Practice; Operations. *Sixth Year: Winter and Summer Sessions:* Medical, Surgical, and Obstetrical Hospital Practice; Polyclinic; Ophthalmology; Psychology, etc. Repetitions preparatory to the examination for the Doctorate.

Persons who have satisfied the conditions laid down regarding the admission of students to the Faculty of Medicine may become candidates for the degree of Bachelor in Medical Science. Students who have undergone the recognised annual examinations in the Faculty of Medicine or of Sciences are exempt from oral examinations in the subjects in which they have already been examined; provided that the examinations have been undergone not more than two years previously. Persons who produce diplomas or certificates giving evidence of their studies may be exempted from further examinations in the subjects in which they have already passed.

The following may become candidates for the degree of Doctor of Medicine: 1. Bachelors in Medical Science; 2. Persons who produce diplomas or certificates indicating that they have gone through an equivalent course of study. There are five examinations for the degree of Doctor of Medicine. *First Examination:* Human Anatomy and Histology; Physiology; Pathological Anatomy and General Pathology; a Necropsy, for which one hour is allowed; making an Anatomical Preparation, for which four hours are allowed. *Second Examination:* Medicine; Surgery; Operative Surgery; three Operations, and Application of Bandages. *Third Examination:* Hygiene; Therapeutics; Materia Medica and Pharmacology; Legal Medicine; a Medico-Legal Report on a real or supposed case, for which one hour is allowed. *Fourth Examination:* Clinical Examination of two medical and two surgical patients and of one case of labour (fifteen minutes being allowed for each case); Obstetrics, with operations on the mannikin; Discussion on each Clinical Case; Written Commentary on a Medical and a Surgical Case, two hours being allowed. *Fifth Examination:* Defence of a printed Dissertation, in the French language, on a subject in medical science chosen by the candidate, and previously communicated to the Faculty.

The examinations are public. Those for the degree of Bachelor are held at the beginning and end of the University year, and in the interval between the sessions. Application for admission must be made to the Dean of Faculty of Medicine eight days before the day of examination. The examinations for the degree of Doctor take place, on the demand of the candidates, at times determined by the Faculty.

Before being admitted to examination, each candidate pays to the beadle 40 *francs;* and after the last examination, 100 *francs* must be paid to the Faculty of Medicine. In case of unsatisfactory examination, half of the first fee is returned, and the second is not paid.

UNIVERSITY OF ZURICH.

THE following are the regulations for the degree of Doctor of Medicine.

1. In order to obtain the degree of Doctor of Medicine, the candidate must send to the Dean a written memorial, accompanied by (*a*) evidence of attendance on lectures of Physics, Chemistry, Botany, Zoology, and Medical Subjects; (*b*) a dissertation on some subject in medical science, which, after approval, the candidate must have printed at his own expense.

2. The dissertation is delivered by the Dean for examination to the teacher of the subject of which it treats, or to the member of the Faculty at whose suggestion it has been composed. A recommendatory opinion of the first examiner decides its acceptance; in this case, his name appears on the title when it is printed. If the first opinion be doubtful or unfavourable, the thesis must be circulated among all the members of the Faculty, and is only accepted if two-thirds of them give their written votes in its favour.

3. When the dissertation is approved, the candidate is admitted to examination for the degree. The first part is written, and the candidate has to answer two questions drawn by lot, one on Anatomy and Physiology, the other on Pathology and Therapeutics, Surgery, or Midwifery. The answers are circulated among the members of the Faculty, who, after examining them, express in writing their determination (by a simple majority) whether the candidate shall be admitted to the second (oral) examination. The oral examination comprises the above-named subjects, and also General Anatomy, Pathological Anatomy, Materia Medica, and Ophthalmic Medicine. The votes of two-thirds of the members of the Faculty present is necessary for the passing of this examination.

4. After the examination has been passed and two hundred printed copies of the dissertation have been delivered, an official diploma is delivered in duplicate to the candidate; all other ceremonies are dispensed with.

5. The fee consists of 350 *francs* (£14), and 15 *francs* to the bedell; it is paid before the oral examination (if this be remitted, before graduation). There is no additional fee if it be necessary to repeat the examination. The fee is not returned if the candidate be definitely rejected. The sum of 100 *francs* is remitted to candidates who already possess a recognised diploma; and, in such cases, the Faculty may, by a majority of two-thirds, agree to omit the oral examination.

6. The faculty has the power of granting the diploma of doctor *honoris causâ* for distinguished services to medicine.

The Medical Faculty consists of the following Professors, with several docents: *Ordinary Professors*—H. Meyer, Human Anatomy; H. Frey, Comparative Anatomy, and Zoology; U. Krönlein, Surgery and Clinical Surgery; L. Hermann, Physiology; E. Ziegler, Pathology; G. Huguenin, Medicine; F. Horner, Ophthalmic Surgery; O. Wyss, Diseases of Children; E. Frankenhäuser, Obstetrics and Gynæcology; A. Forel, Mental Diseases. *Extraordinary Professor*—H. Spöndly, Obstetric Medicine. Lectures are given in the Philosophical Faculty by *Ordinary Professors*—V. Merz, Chemistry; W. Weith, Chemistry; C. Cramer, Botany: *Extraordinary Professors*—J. R. Hofmeister, Experimental Physics; A. Dudel-Port, Chemistry. A Hospital, Lying-in Hospital, Children's Hospital, Pathological, Physiological, and Chemical Laboratories, are connected with the University.

THE LICENCE TO PRACTISE MEDICINE.

The following are the regulations for the licence to practise medicine in Switzerland. One licensing body examines at Geneva, and the other at Basle, Berne, and Zürich; both have the same regulations, and grant the licence to practice in all parts of the republic.

There are two examinations, preliminary and final. At Geneva, candidates are admitted to the preliminary examination on producing one of the following certificates: 1. Bachelier ès lettres; 2. Bachelier ès sciences; 3. Certificates of having passed two examinations in the Section of Philosophy at Geneva, and of having previously taken not less than twenty hours per week of studies. 4. Certificates of foreign studies at the Classical Section of the Gymnasium at Geneva; 5. Certificates of foreign studies equivalent to those named above. At the Amalgamated Board of Basle, Berne, and Zürich, candidates must produce evidence of complete and satisfactory studies in a public school; and of attendance on courses of Anatomy, Chemistry, Physics, Physiology, Practical Physiology, and six months' work in a Chemical Laboratory.

The examination is written and oral. The written part consists in producing two dissertations, one in Physics or Chemistry, the other in Anatomy or Physiology. The oral examination comprises Botany, Zoology, and Comparative Anatomy, Physics, Anatomy, and Physiology. At Geneva, candidates who have passed this examination are entitled to the designation of Bachelor of Medical Science.

In order to be admitted to the Final Examination for the Licence, candidates at Geneva must produce the certificate of Bachelor of Medical Science, and diplomas and certificates obtained after equivalent studies and examinations elsewhere. At the other Board, they must pruduce evidence of having passed the Preliminary Examination, and of having attended the following academic courses: Pathological Anatomy, Medicine, Practical Surgery and Bandaging (six months), Clinical Medicine and Clinical Surgery (each three sessions), Clinical Midwifery (two sessions), and Clinical Ophthalmic Medicine (one session).

The examination is written, practical, and oral. The written and practical part consists of—1. Examination of two Medical and two Surgical cases, and one of Midwifery, in the presence of two examiners; 2. Written opinion of one of two Medical and two Surgical cases; 3. A *post mortem* Examination, and opinion on the same; 4. Performance of two Operations: one the tying of an artery; the other according to the judgment of the examiners. The *vivâ voce* examination comprises: 1. General Pathology and Pathological Anatomy; 2. Special Pathology and Therapeutics; 3. Hygiene; 4. Pharmacology; 5. Surgery; 6. Topographical Anatomy, with Operations; 7. Ophthalmology; 8. Midwifery; 9. Ordinary Medical Practice.

DENMARK.

MEDICAL EDUCATION & GRADUATION.

THE study of Medicine at the University of Copenhagen is open to any student who has matriculated there or in foreign Universities; but only Danish subjects can obtain through examination the right to practise as medical men in the country.

The course of study is divided into three parts, namely, an introductory and two principal courses.

1. The introductory part consists of Botany (with especial regard to medicinal plants), Physics, Zoology, and Chemistry, theoretical and practical. The student has to submit to a preliminary examination on these subjects, and he can then enter as a pupil of one of the hospitals, where he must attend in a fixed order, and for a certain time, the various wards.

2. The second course comprises Anatomy, Physiology, Pharmacology, and Dissections, in which the student has to submit to an examination.

3. The final course consists of the following: Theoretical Surgery, Clinical Surgery, Operative Surgery, Theory of Medicine, Clinical Medicine, Pathological Anatomy, General Pathology, Forensic Medicine, and Obstetric Medicine. The student is examined on these subjects, and has to present a written thesis in Medicine, and one on Surgery. Before the student can pass his examination in this concluding course, he must present a certificate showing that he has gone through a half-yearly Clinical course of study under the chief Physicians at the hospital in Surgery, Medicine, Skin-Diseases, and Syphilis; and a shorter course at the Lying-in Institution in Obstetrics and Diseases of Children.

When these examinations are taken, the obligatory course of study is concluded by a residence at the Lying-in Institution, in order to obtain a practical knowledge of operations in cases of abnormal labours. The candidate who has passed his examination has now a right to practise medicine; but the majority of candidates, before commencing to practise, endeavour to obtain an appointment at one of the hospitals, where they do duty during two years in a subordinate position. The entire course of study generally covers a period of from six to seven years.

In order to obtain the degree of Doctor of Medicine, the candidate has to prepare and submit to the Medical Faculty a treatise on a medical subject chosen by himself. If it be accepted by the Faculty, it is printed, and must be defended by the author publicly at the University, when at least two professors of the Medical Faculty appear as opponents. At most only about 10 per cent. of the medical men in Denmark endeavour to obtain this degree.

Among other means for aiding the labours of the student at the University are: The Botanical Gardens, a Zoological Museum, a Chemical Laboratory, a Collection of Physical Instruments, an Anatomical Museum, Dissecting Rooms (Physiological Collection and Laboratory), Pharmacological Collection, Collection of Surgical Instruments, Pathological Museum, the Copenhagen hospitals and the Lying-in Institution.

No entrance fees are demanded, and all the lectures are free to the students. The fees payable in respect of the several examinations amount in all to 60 *Kroner* (about £3 10*s*.) The expenses in connection with obtaining the degree of Doctor of Medicine amount to 160 *Kroner* (about £9).

Ten professors are attached to the University, namely: two in Medicine (Theoretical and Clinical), two in Surgery (Theoretical and Clinical), one in Pathological Anatomy, one in Obstetric Medicine and Diseases of Women and Children, one in Normal Anatomy, one in Physiology, one in Pharmacology and Materia Medica, one in Forensic Medi-

cine, Hygiene, and Psychiatry, beside a permanent *docent* for Syphilis and Skin-Diseases.

In addition, lectures are given by the chief physicians attached to the various wards of the hospitals. Six of the professors of the University act as chief physicians in the Copenhagen hospitals.

SWEDEN.

MEDICAL EDUCATION.

THERE are three medical institutions in Sweden which confer licences to practise, viz., in the Universities of Upsala and Lund, and the Karolina Medico-Chirurgical Institute or Academy of Medicine in Stockholm. The Universities also confer the degree of Doctor of Medicine. A Medical School, with professors of the various branches of medical science, is connected with each.

The three institutions possess museums of normal and pathological anatomy, collections of chemical and pharmaceutical preparations and drugs, of surgical and obstetric instruments, physiological and pathological laboratories, etc.

Upsala possesses a hospital of 150 beds, which is entirely at the disposal of the University for the purpose of clinical teaching. The professors of medicine and surgery are *ex officio* medical officers of the hospital. Of the 150 beds, 100 or a few more are generally occupied, and are divided among medical, surgical, syphilitic and obstetric cases.

In Lund, clinical instruction is given in the State Hospital, and also in the University Hospital. In the latter, there are 80 beds for medical and 80 for surgical cases, with 67 beds in the syphilitic and 8 in the obstetric departments. Of these, 40 beds in the medical and 40 in the surgical department are appropriated to clinical instruction. The obstetric department is also clinical. Clinical instruction in the diseases of the eye is also given.

In Stockholm, the pupils of the Karolina Institution receive clinical instruction at the Seraphim Hospital, the Children's and Lying-in Hospitals, the Town and State Lock Hospital, and the Lunatic Asylum at Konradsberg.

At the Seraphim Hospital, there are two medical and two surgical wards, under the charge of the ordinary and adjunct professors of medicine and surgery; and also a small gynæcological ward. It contains about 300 beds. An ophthalmic clinic is comprised in the surgical department; and the gynæcological clinic is attached to the medical.

The Lying-in Hospital or Obstetric Clinic, can accommodate thirty patients; twenty beds are generally occupied. The professor of obstetrics in the Karolina Institution is *ex officio* chief physician.

The whole of the cases in the General Orphan Hospital are available for clinical instruction. The daily number of infants under one year old in the institution is from 100 to 200; sometimes it has been as high as 240. Of these 10 or 12 per cent. are generally on the sick-list. There are also about 80 children between one and fifteen years of age. In addition, from 1,600 to 2,000 are attended yearly as out-patients. Clinical Instruction is given by the professor of diseases of children for eight months in the year, and four months by his adjunct.

The Town and State Lock Hospital has 180 beds, of which, on an average, 140 are occupied daily.

The Hospital for the Insane at Konradsberg has 220 beds, which are all available for clinical instruction. The professor of psychological medicine in the Karolina Institute is the chief physician.

LICENCE AND DEGREE IN MEDICINE.

No one can practise medicine in Sweden who has not obtained a licence from one of the three boards. The examinations for the licence consist of two parts. The first, for the Diploma of Candidate in Medicine (analogous to *Officier de Santé* in France), embraces Anatomy, Physiology, Medical Chemistry, Pharmacology, General Pathology, and History of Medicine. The candidate must, after passing the maturity examination on leaving a lyceum, have undergone a preliminary (medico-philosophical) examination in Botany, Zoology, Chemistry, and Physics, or have passed an examination as candidate in Philosophy. He must also have followed the practical laboratory courses of Chemistry, Physiology, and normal and morbid Anatomy. The examination for the licence comprises Medicine, Diseases of Children, Surgery, Obstetrics and Gynæcology, Pathological Anatomy, and Forensic Medicine. The candidate must have passed the examination for Candidate in Medicine, and must subsequently have attended the clinics of Medicine, Surgery, Obstetric Medicine, Diseases of Children, Syphilis, and Diseases of the Mind; and must have obtained a competent knowledge of Pharmacy. Attendance on oral lectures is not obligatory.

The degree of Doctor of Medicine is conferred by the Universities of Lund and Upsala on Licentiates of those Universities and of the Academy at Stockholm, on their presenting and defending a thesis. Attendance on lectures is obligatory for the Degree.

NORWAY.

MEDICAL EDUCATION.

IN the University of Christiania, which is the only School of Medicine in Norway, lectures are delivered on the following subjects: Surgery, Ophthalmic Surgery, Physiology, Midwifery and Diseases of Women and Children, Descriptive Anatomy, Forensic Medicine, Pathology and Therapeutics, Hygiene, Materia Medica, General Pathology and Pathological Anatomy, Surgical Pathology, Zoology, and Chemistry. Clinical instruction is given in the General Hospital on Surgery, Ophthalmic Surgery, Medicine, Diseases of the Skin and Syphilis; at the Lying-in and Children's Hospital, on the Diseases of Women and Children; at the Gaustead Asylum and at the Christiania Lunatic Asylum, on Mental Diseases; and in the Town Hospital, on Chronic Diseases. Practical instruction is also given in Chemistry, Anatomy, and Botany.

LICENSES AND DEGREES.

Before entering on the study of medicine, the candidate has to pass two preliminary examinations: one in Arts, including Norwegian, Latin, Greek, French, German, English, Mathematics, Geography, and History; and one in Philosophy, including Geometry, Zoology, Botany, Astronomy, and the elements of Chemistry and Physics. Having passed these, he is admitted to matriculation, and afterwards studies Medicine nearly seven years.

There are three professional examinations. The first is held two and a half years after Matriculation,

in Anatomy, Dissections, the use of the Microscope, Physiology, and Medical Physics. The second, held three and a half years after the first, includes Pharmacology, Toxicology, Medicine, Therapeutics, General Pathology, Pathological Anatomy, Surgery, Ophthalmic Surgery, Skin-Diseases, and Syphilis. The third examination, held about a year after the second, comprises Surgical Anatomy, Surgery, Operative Surgery, Obstetrics, and Gynæcology, Diseases of Children, Forensic Medicine, Hygiene, and a Practical Examination in Medicine and Surgery. Practical work in the Hospital Wards is also obligatory.

On passing the final examination, the candidate becomes a physician, and obtains the right to practise. To obtain the degree of Doctor, he must pass a further examination, and defend a thesis.

HOLLAND.

DEGREE OF DOCTOR OF MEDICINE.

The degree of Doctor of Medicine is granted in Holland by the Universities of Groningen, Leyden, and Utrecht. Candidates for matriculation must produce evidence of gymnasial maturity, or undergo an equivalent examination. The course of study, including laboratory work and hospital practice, extends over six years. The final examination embraces all the subjects of medical study and the presentation and defence of a thesis. The degree does not grant a license to practise.

STATE EXAMINATION.

This examination is conducted by eight professors, appointed annually and paid by the government. The applicant for admission must be a Doctor of Medicine of some University, or possess a certificate of gymnasial maturity, or pass a preliminary literary and philosophical examination. The course of medical study must extend over at least six terms. The medical examination includes General and Special Pathology, Pharmacology, Morbid Anatomy, Medical Jurisprudence, Clinical Medicine, Clinical Surgery, and Obstetrics.

BELGIUM.

GRADUATION IN MEDICINE.

DEGREES in Medicine are granted by the Universities of Brussels, Ghent, Liège, and Louvain. The Universities of Brussels and Louvain confer only scientific titles, without license to practise; the degrees of the other two, when legalised by a Government commission, give the right of practice in Belgium.

UNIVERSITY OF BRUSSELS.

By the regulations of the University of Brussels, British and other medical practitioners, provided with proper qualifications, are admitted to examination before the Faculty for the degree of M.D. Residence is not required from such as are unable to absent themselves long by reason of their professional occupations.

Candidates must come in person and have their names inscribed in the books of the University. The fees are, for inscription of name, 215 fr. (8*l.* 12*s.*); for examinations, 315 fr. (12*l.* 12*s.*); for registration of diploma, 10 fr. (8*s.*); total, 540 fr. (21*l.* 12*s.*) The examination consists of three parts. 1. General Therapeutics, including Pharmaco-dynamics (proportions of doses), Special Pathology and Therapeutics of Internal Diseases, General Pathology, and Pathological Anatomy. 2. Surgical Pathology, Ophthalmic Surgery, Theory of Midwifery, Public and Private Hygiene, Medical Jurisprudence. Examination at the Hospital of one or two patients under Medical and Surgical Treatment; Examination in Midwifery, consisting in Obstetrical Operations on the *mannequin* (model of pelvis); Examination in Operative Surgery, consisting of some of the usual operations on the dead subject, such as amputation, ligature of an artery, etc.

Great importance is attached to practical knowledge, but candidates must also prove that they possess positive theoretical science.

Examinations take place at any time between October 15th and June 20th, except during Christmas and Easter. They are *viva voce* and written, but candidates may be exempted from the former and confine themselves to the written tests by paying an additional fee of £1 for each test. Candidates must exhibit their qualifications or diplomas.

The three examinations may be got through in a week, allowing a day's interval between each two tests. Saturday is the most eligible day for arriving, for candidates for whom time is an object. The delay of a week is, however, never exceeded by more than a day or two.

The examinations are conducted in English through the medium of an interpreter, for such candidates as are not familiar with the French language.

Candidates who are not foreign qualified medical men must undergo the above-mentioned examinations, and also an examination in Anatomy, Physiology, and Histology, and must produce a degree in Arts or Science from a recognised University, or pass a preliminary examination; they must also have attended for five years the lectures in a medical college, or for three years the medical and surgical practice of a hospital.

UNIVERSITY OF GHENT.

A CANDIDATE for matriculation at this University must be a graduate in Arts of some University, or must pass a preliminary examination. He must then attend for two years a scientific course, including, Psychology, Chemistry, Physics, Botany, Zoology, and Mineralogy, and at the end of the time pass an examination in these subjects. After this, he must attend lectures for five years, and hospital practice for three years.

The following examinations must be passed: 1. At the end of the second year of medical study, in Descriptive Anatomy, Histology, Physiology, Pharmacology, and Comparative Anatomy; 2. At the end of the fourth year, in General Pathology, Therapeutics, Theory and Practice of Medicine, and Morbid Anatomy; 3. At the end of the fifth year, in Theory and Practice of Surgery and in Obstetrics. The final examination for the Doctorate includes the general subjects of medical study, with practical examinations in Clinical Medicine, Clinical Surgery, Obstetrics, and Operative Surgery. Candidates who have attended the requisite lectures and hospital practice elsewhere are admitted to the final examination if they possess a degree in Arts or pass the matriculation examination of the University.

UNIVERSITY OF LIÈGE.

THE University grants a degree in Medicine, Surgery, and Midwifery, which can only be obtained after passing three examinations, in the French language, in natural sciences and medical subjects.

The first examination includes the following subjects: General Chemistry, Logic, Psychology, Moral Philosophy, Experimental Physics, Elements of Zoology, Elements of Botany (comprising the medical category), Elementary Geology and Mineralogy. This is called the examination for candidates in natural sciences.

The second examination, which is for candidates in medicine, includes Elements of Comparative Anatomy, Descriptive and Regional Anatomy, Human Physiology, and Pharmacology.

The third examination, which, when successfully passed, entitles the candidate to the Doctorate, includes the following subjects, viz., General Pathology, Pathological Anatomy, Special Pathology, and Therapeutics. Mental Maladies, General Therapeutics, Surgical Pathology and Ophthalmology, Theory and Practice of Midwifery (including operations), Public Hygiene, Legal Medicine, Clinical Medicine, Clinical Surgery, Surgical Operations.

The fees are—for the first examination, 80 *fr.*; second, 40 *fr.*; doctor in medicine, 240 *fr.*; total, 300 *fr.*, or about £15.

UNIVERSITY OF LOUVAIN.

THIS University, before granting the usual degree, insists upon compliance with the following conditions, viz.: 1. An examination in one group (or branch) of the sciences, Mathematics, Physico-chemics, or Natural Sciences. 2. An examination upon all medical subjects, in the French language.

Candidates for the degree of Doctor must have studied medicine five years at a recognised medical college or university, and have attended hospital practice for three years, at a recognised hospital.

The University of Louvain consists of several colleges, and the buildings of the Halles, and contains a library of 70,000 volumes.

ITALY.

GRADUATION IN MEDICINE.

THE Italian universities at which degrees in medicine are granted are Bologna, Catania, Padua, Palermo, Pavia, Pisa, Rome, Siena, and Turin. There is also a preparatory School of Medicine at Ferrara.

The regulations for Graduation in Medicine in the Universities of Italy are as follows.

1. The Medico-Chirurgical Faculty has the duty of giving instruction in all subjects relating to medicine and surgery, promoting the cultivation of all that is known in that field, and qualifying for the exercise of the medical profession in its various branches. 2. The course of medical and surgical study extends over six years, at the end of which free license to practise is granted. 3. The following courses of instruction are obligatory: General Chemistry, Organic and Inorganic; Botany; Zoology, with Comparative Anatomy and Physiology; Experimental Physics; Normal Human Anatomy (*i.e.*, Histology, Descriptive and Topographic Anatomy, and Dissection); Human Physiology; General Pathology; Pathological Anatomy (demonstrations and exercises); Materia Medica and Experimental Pharmacology; Special Medical Pathology (or Principles and Practice of Medicine); Special Surgical Pathology (Surgery); Clinical Medicine and Exercises in Semeiotics; Clinical and Operative Surgery; Theory and Practice of Ophthalmic Surgery; Theory and Practice of Diseases of the Skin and Syphilis; Midwifery and Clinical Midwifery; Forensic Medicine and Public Hygiene; Theoretical and Clinical Psychiatry (where opportunities exist). 4. The obligatory courses must each be attended one year; except Pathological Anatomy, of which two years are required, and Human Anatomy and Clinical Medicine and Surgery, each three years. 5. The following courses are non-obligatory or complementary; Medical Chemistry; Experimental Toxicology; Critical History of Medicine. 6. Besides these, other free courses may also be given. 7. There shall be three biennial examinations in the Faculty of Medicine; the first for 'promotion'; the second for 'license'; the third for the degree of 'laureate', with a diploma conferring full licence to practise. 8. In the Universities of Pisa and Siena the licentiate shall have the title of laureate of the first stage (*laurea di primo grado*). 9. In order to be admitted to the first examination (*promozione*) the candidate must have been a student at the University at least two years, and have diligently attended the Courses of Chemistry, Botany, Zoology, Comparative Anatomy and Physiology, Experimental Physics, Human Anatomy, and any subjects of instruction that he may choose, so as to make up eighteen hours of instruction per week. 10. The subjects of examination shall be Chemistry, Botany, Zoology, Comparative Anatomy and Physiology, and Experimental Physics. The Examining Board shall consist of the official teachers of the subjects of examination, with one or two additional examiners not belonging to the teaching body. On the proposal of the Faculty, and with the consent of the Minister, the examination for promotion may be divided into two parts, one to be held at the end of the first year, and the other at the end of the second year. At the beginning of each scholastic year, the Faculty shall determine what courses are to be followed and when. 11. The candidate for admission to the several examinations (license) must have passed the first examination, have attended the University during two other years, and have diligently attended courses of Human Anatomy and Physiology, General Pathology, Practical Pathological Anatomy, Materia Medica and Experimental Pharmacology, Special Medical Pathology, Special Surgical Pathology, Clinical Medicine, and Clinical Surgery. 12. The Examining Board shall be composed of the official teachers of the subjects mentioned, with one or two assessors not belonging to the teaching body. The examination shall be oral, and practical as regards Human Anatomy and Materia Medica. 13. A candidate for admission to the third examination (*laurea*) must have passed the second examination, have subsequently been a student at the University during two years, and have diligently attended the courses of Clinical Dermatology and Syphilology, Clinical Ophthalmic Surgery, Midwifery and Clinical Midwifery, Clinical Psychiatry, Exercises in Pathological Anatomy, Clinical Medicine and Surgery, Operative Surgery, Forensic Medicine and Hygiene, and voluntary courses so as to make up eighteen hours of instruction each week. 14. The candidate has to undergo an examination on the dead body

and two clinical examinations. 15. The examination on the dead body shall be conducted by a subcommittee consisting of all the professors of Operative Surgery, Pathological Anatomy, and Forensic Medicine, with one or two assessors not belonging to the official teaching body. 16. In this examination, the candidate will perform on the dead body a surgical operation, the nature of which will be decided by lot from a series prepared by the sub-committee. He will also perform a necropsy, and draw up a description of the appearances seen. Finally, he will answer the questions put to him by the examiners, and especially on the results of the necropsy, which are asked by the professor of forensic medicine. 17. The first clinical examination will be conducted in the presence of a sub-committee consisting of the professors of Clinical Dermatology and Syphilology, Clinical Obstetrics, Clinical Psychiatry, Clinical Ophthalmology, and Forensic Medicine, with one or two extra-professorial assessors. 18. In this examination the candidate will examine four cases of diseases selected from the four special classes, which have not previously been examined or treated in the clinical wards, and will give his opinion on the diagnosis, prognosis, and treatment. He will afterwards answer the questions and observations of the examiners, and especially will reply to the questions put by the professor of Forensic Medicine on the obstetric and psychological cases. 19. The several clinical examinations shall be conducted in the presence of a sub-committee, consisting of the Professors of Clinical Medicine, Clinical Surgery, Medicine, Surgery, and Forensic Medicine, with one or two extra-professorial assessors. 20. The candidate shall examine, in the presence of the subcommittee, four patients, two medical and two surgical, who have not yet been examined or treated in the wards, and shall write a description of the cases. He shall, finally, answer the questions asked by the examiners. 21. A student most have passed each stage of the third examination before he can be admitted to the next stage. 22. In each examination, a student rejected in one subject alone may present himself for examination in this subject only on a future occasion; but if he be rejected in two or more subjects, the whole examination must be repeated. 23. The three stages of the third examination having been passed, the three subcommittees unite to form a committee, presided over by the President of the Faculty, and will judge of the merits of the candidates. The successful candidates will be declared doctors in medicine and surgery, and the president will refer them to the Rector, in order that they may receive the diploma of laureate.

Foreigners desirous of obtaining medical degrees in Italian Universities must produce a diploma or degree obtained at some noted foreign university, and must at the same time produce satisfactory proof that they have actually gone through all the studies and passed the examinations required for that degree. They must also pass the ordinary examinations for the medical degree and pay the respective fees. The examinations are usually conducted in the Italian or the Latin language.

Dr. von Schüppel, professor of Pathology in the University of Tübingen, died on August 26th, at the age of 44. He was the author of some well-known contributions to medical literature on the pathology of tubercle, and of the article on 'Diseases of the Chylopoietic System' in Ziemssen's *Handbook*.

UNITED STATES OF AMERICA.

The United States possess a very large number of institutions empowered by charter to grant the degree of doctor of medicine; there being, in some instances, special colleges and schools of medicine and surgery, and in others the medical departments of Universities. The subjoined list is taken from an interesting article on Literature and Institutions, by Dr. J. S. Billings, of the United States Army, published as a part of the *Century of American Medicine*. The dates indicate the years in which degrees in medicine were first conferred by the respective bodies.

Alabama.—Medical College of Alabama (Mobile): 1860.

California.—Medical College of the Pacific University (City) College (San Francisco); 1859.—University of California (San Francisco): 1865.

Connecticut.—Medical Department of Yale College (New Haven): 1814.

District of Columbia.—National Medical College, Medical Department of Columbian University (Washington): 1826. — Georgetown University (Washington): 1852.—Howard University (Washington): 1871.

Georgia.—Medical College of Georgia (Augusta): 1833.—Savannah Medical College: 1854.—Atlantic Medical College: 1855.

Illinois.—Rush Medical College, Medical Department of University of Chicago: 1844.—Chicago Medical College, Medical Department of North-Western University: 1860.

Indiana.—Medical College of Evansville: 1850.—Indiana Medical College (Indianopolis): 1870.—Indiana College of Physicians and Surgeons (Indianopolis): 1875.

Iowa.—College of Physicians and Surgeons (Keokuk): 1850.—Iowa State University (Iowa City): 1871.

Kentucky.—University of Louisville: 1838.—Kentucky School of Medicine (Louisville): 1851.—Louisville Medical College: 1870.—Hospital College of Medicine, Medical Department of Central University (Louisville): 1875.

Louisiana.—University of Louisiana (New Orleans): 1835.—Charity Hospital Medical College of New Orleans: 1876.

Maine.—Bowdoin College and Medical School of Maine: 1821.

Maryland.—University of Maryland (Baltimore): 1811.—Washington University School of Medicine (Baltimore): 1828.—College of Physicians and Surgeons (Baltimore): 1873.

Massachusetts. — Harvard University (Boston): 1785.

Michigan.—University of Michigan (Ann Arbor): 1851.—Detroit Medical College: 1869.

Missouri.—Missouri Medical College (St. Louis): 1841.—St. Louis Medical College: 1843.—Kansas City College of Physicians and Surgeons: 1870.

New Hampshire.—Medical School of Dartmouth College (Hanover): 1798.

New York.—College of Physicians and Surgeons of the City of New York: 1769.—Albany Medical College: 1839.—University of the City of New York: 1842.—University of Buffalo: 1847.—Long Island College Hospital (Brooklyn): 1860.—Bellevue Hospital Medical College (New York): 1862.—College of Medicine of Syracuse University: 1873.

Ohio.—Medical College of Ohio (Cincinnati): 1821.—Starling Medical College (Columbus): 1836.—Cleveland Medical College: 1844. — Cincinnati College of Medicine and Surgery: 1852.—Miami Medical College (Cincinnati): 1853.—University of Wooster (Cleveland): 1865.

Oregon.—Williamette University (Salem): 1867.

Pennsylvania.—University of Pennsylvania (Philadelphia): 1768.—Jefferson Medical College (Philadelphia): 1826.

South Carolina.—Medical School of the State of South Carolina (Charleston): 1825.—University of South Carolina (Columbia): 1868.

Tennessee.—University of Nashville: 1852.—Vanderbilt University (Nashville): 1875.

Texas. — Galveston Medical College: 1866. — Texas Medical College and Hospital (Galveston): 1874.

Vermont. — University of Vermont and State Agricultural College (Burlington): 1823.

Virginia. — University of Virginia (Charlottesville): 1828.—Medical College of Virginia (Richmond): 1839.

UNIVERSITY OF PENNSYLVANIA.

THE Medical Department of this University is the oldest medical school in America, having been established in 1765 by Drs. John Morgan and William Shippen, on the plan of the University of Edinburgh, of which the founders were graduates. The following are the professors of the faculty as at present constituted :—Dr. C. J. Stillé, Provost of the University and *ex officio* President of the Faculty; Dr. H. H. Smith, M.D. (Surgery—*Emeritus*); Dr. Joseph Leidy (Anatomy); Dr. Richard A. F. Penrose (Obstetrics and Diseases of Women and Children); Dr. Alfred Stillé (Theory and Practice of Medicine, and Clinical Medicine); Dr. D. Hayes Agnew and Dr. John Rhea Barton (Surgery and Clinical Surgery); Dr. William Pepper (Clinical Medicine); Dr. William Goodell (Clinical Gynæcology); Dr. James Tyson (General Pathology and Morbid Anatomy); Dr. Horatio C. Wood (Materia Medica, Pharmacy, and General Therapeutics); Dr. Theodore G. Wormley (Chemistry); Dr. John Ashhurst, jun. (Clinical Surgery); Dr. Harrison Allen (Physiology).

The curriculum is arranged as follows—*First Year:* Anatomy, Histology, Materia Medica and Pharmacy, General Chemistry, Physiology, General Pathology, General Clinics—Medical and Surgical. Final Examinations in General Chemistry, Materia Medica, and Pharmacy. *Second Year:* Anatomy, Topographical Anatomy, Medical Chemistry, Physiology, General Pathology and Morbid Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, General Clinics—Medical and Surgical. Final examinations in Anatomy, Medical Chemistry, and Physiology. *Third Year:* General Pathology and Morbid Anatomy, Topographical Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, Operative Surgery, Minor Surgery and Bandaging, Diseases of Women and Children; Gynæcology, Bedside Instruction in Practical Medicine (including Physical Diagnosis), Bedside Instruction in Practical Surgery, Practical Ophthalmology, Practical Otology, Practical Dermatology, Practical Electro-Therapeutics, General Clinics—Medical and Surgical. Special Clinics (Nervous Diseases, Diseases of Skin, Eye, Ear, Diseases of Women and Children). Final examinations for degree at the end of the course. General Pathology and Morbid Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, and Diseases of Women and Children. Opportunities for practical work in the physiological laboratory will be afforded to those who desire them. A separate fee is charged.

No beneficiary students are received, nor students at reduced rates, except in the case of the six successful applicants for the scholarships created by the board of trustees. These are open to competitive examination. Candidates must furnish satisfactory evidence that they are without the means to defray the expenses of a medical education. They must also write a brief autobiography, which will serve as a test of their qualifications in orthography and grammar; and pass an examination in a Latin prose translation (first three books of Cæsar), and an examination in elementary physics. This examination is held annually in September.

The faculty have established a post-graduate course, which embraces Practical Physiology, Medical Chemistry, Pathology, Clinical Medicine, Clinical Surgery, Clinical Surgery of Children, Operative Surgery and Bandaging, Practical Obstetrics, Clinical Gynæcology, Diseases of the Nervous System, including Electro-Therapeutics, Diseases of Children, Ophthalmology, Dermatology, Otology, Laryngoscopy, and Venereal Diseases. A fee ranging from fifteen to twenty-five dollars is charged for instruction in each of these special departments.

The Laboratory Building is a spacious building of four floors: the first being devoted to operative dentistry; the second and third are fitted up as chemical laboratories; while the fourth contains apartments for physiological, histological, and pathological investigation. There are also a pharmaceutical laboratory, and one of experimental therapeutics. The attendance of the students upon the laboratory courses is compulsory. Before commencing dissecting, the student is obliged to attend the osteo-syndesmological laboratory, in order to make himself familiar with the skeleton. The following are the requirements for graduation.

Students who have attended one course in a regular medical school (homœopathic and eclectic schools are not recognised) will be admitted as students of the second course in the University, after having satisfactorily passed an examination in general chemistry and materia medica and pharmacy. Students who have attended two courses in a regular medical school shall be admitted as students of the third course, after having satisfactorily passed an examination in general and medical chemistry, materia medica and pharmacy, anatomy, and physiology. Graduates of other regular medical schools in good standing will be admitted as students of the third course without an examination. Graduates of colleges of pharmacy and dental colleges in good standing are admitted to the second course without an examination. The candidate for the degree of doctor of medicine must have attained the age of twenty-one years, and be of good moral character. He must have studied medicine for three years, and have attended at least his last course of instruction in this school; have prepared a satisfactory thesis, and have passed the required examinations. Candidates who have not been successful upon a first examination will be permitted to have a second before the June commencement. The commencement for conferring the degree of doctor of medicine is held on the 15th day of March, unless that day should

fall on a Saturday or Sunday, when it is held on the preceding Friday. The degree will not be conferred upon a candidate who absents himself from the public commencement, except by special permission of the medical faculty.

The entire college expenses for the three years' course is 435 dollars, including matriculation and graduating fees.

COLLEGE OF PHYSICIANS AND SURGEONS OF NEW YORK.

THIS is otherwise known as the Medical Faculty of Columbia College. The instruction is given by the following professors, etc.: Dr. Alonzo Clark (Pathology and Practical Medicine); Dr. Willard Parker (Clinical Surgery); Dr. J. C. Dalton (Physiology and Hygiene; Dr. T. M. Markoe (Principles of Surgery); Dr. T. Gaillard Thomas (Gynæcology) *Emeritus*; Dr. P. F. Mundé (Clinical Diseases of Women); Dr. J. T. Metcalfe (Clinical Medicine) *Emeritus*; Dr. H. B. Sands (Practice of Surgery); Dr. J. W. McLane (Obstetrics and the Diseases of Children); Dr. T. T. Sabine (Anatomy); Dr. C. F. Chandler (Chemistry and Medical Jurisprudence); Dr. E. Curtis (Materia Medica and Therapeutics); Dr. F. Delafield (Adjunct, Pathology and Practical Medicine); Dr. J. G. Curtis (Adjunct, Physiology and Hygiene); Dr. Wm. Detmold (Military and Clinical Surgery) *Emeritus*; Dr. W. H. Draper (Clinical Medicine); Dr. Cornelius R. Agnew (Clinical, Diseases of the Eye and Ear); Dr. Abraham Jacobi (Clinical, Diseases of Children); Dr. Fessenden N. Otis (Clinical Venereal Diseases); Dr. Edward C. Seguin (Clinical Diseases of the Mind and Nervous System); Dr. G. M. Lefferts (Clinical, Laryngoscopy and Diseases of the Throat); Dr. G. H. Fox (Clinical, Diseases of the Skin); Dr. Bull (Demonstrator of Anatomy); Dr. Prudden (Director of the Pathological Laboratory).

The Collegiate Year consists of a regular Winter Session, attendance upon which is required for the graduation. The Session for 1881-2 begins October 3rd, and continues till May. Tuition is by the following methods:

1. *Didactic Lectures.*—During the Session from two to six lectures are given daily by the Faculty. Attendance is obligatory.

2. *Clinical Teaching.*—Ten clinics, covering all departments of medicine and surgery, are held weekly throughout the entire year in the College Building. In addition, the Faculty give daily clinics at the larger City Hospitals and Dispensaries (such as the Bellevue Charity, New York, and Roosevelt Hospitals, the New York Eye and Ear Infirmary, the Women's Hospital, etc.) Attendance is optional.

3. *Recitations* are held daily. Attendance is optional.

Personal Instruction.—Cases of Obstetrics are furnished without charge. Personal instruction is given in Practical Anatomy, Experimental Physiology, Operative Surgery, Minor Surgery, Physical Diagnosis, Ophthalmology, Otology, Laryngoscopy, Normal and Pathological Histology, and the Examination of the urine. Attendance is optional, except upon Practical Anatomy.

Candidates for the Degree of Doctor of Medicine must have attended two full courses of lectures on Anatomy, Physiology, Chemistry, Materia Medica and Therapeutics, Obstetrics, Surgery, Pathology, and Practical Medicine; the second course must have been given in this College. Students are permitted—and are recommended—to complete the two full courses by attendance during three or more sessions, taking only certain branches in each session. Candidates must have studied Practical Anatomy during one winter session; have been engaged during three years in the study of medicine under a regular physician or surgeon; have attained the age of 21 years; and be of good moral character. Each candidate must present a thesis on some medical subject, and pass an examination in the seven branches of medical science above mentioned.

A rejected candidate may appear a second time for examination at the end of not less than five months. If he then again fails, he must matriculate, and attend a third course of winter lectures (on payment of the matriculation fee only), at this College, before he can appear a third time for examination.

Students who have atterded two courses of lectures (one being at this College) on Anatomy, Physiology, and Chemistry, may be examined on these subjects at the end of their second course; and the examination, if satisfactory, is accounted final.

Students and graduates of other schools are admitted under special regulations.

The fees are: Yearly matriculation, 5 dollars; Course of Lectures each Session, 140 dollars, or 20 dollars for each course; Practical Anatomy, 10 dollars, and graduation fee, 30 dollars.

UNIVERSITY OF THE CITY OF NEW YORK.

THE Professors in the Faculty of Medicine are: Dr. Alfred C. Post (*Emeritus* Professor of Clinical Surgery, and President); Dr. Charles I. Pardee (Diseases of the Ear—Dean); Dr. John C. Draper (Chemistry); Dr. Alfred L. Loomis (Pathology and Practice of Medicine); Dr. W. Darling (Anatomy); Dr. W. H. Thomson (Materia Medica and Therapeutics); Dr. J. W. S. Arnold (Physiology and Histology); Dr. J. Williston Wright (Surgery); Dr. Fanueil D. Weisse (Practical and Surgical Anatomy); Dr. W. H. Polk (Obstetrics, and Diseases of Women and Children; Dr. L. A. Stimson (Pathological Anatomy); Dr. A. L. Ranney (Adjunct Professor of Anatomy).

A Post-Graduate Course of Lectures is delivered by the following Professors: Dr. D. B. St. John Roosa (Ophthalmology); Dr. Wm. A. Hammond (Diseases of the Mind and Nervous System); Dr. Stephen Smith (Orthopædic Surgery); Dr. J. W. S. Gouley (Diseases of the Genito-Urinary System); Dr. Montrose A. Pallen (Gynæcology); Dr. Henry G. Piffard (Dermatology); Dr. A. E. Macdonald (Medical Jurisprudence); Dr. J. L. Little (Clinical Surgery); Dr. F. R. Sturgis (Venereal Diseases).

The Collegiate Year is divided into three Sessions: a Preliminary Session, a Regular Winter Session, and a Spring Session.

The Professors of the Practical Chairs are connected with the Bellevue and Charity Hospitals, and the University Students are admitted to all the Clinics given therein, free of charge.

In addition to daily Hospital Clinics, there are eight Clinics each week in the College. Five Didactic Lectures are given daily in the College building, and Evening Recitations are conducted by the Professors of Chemistry, Practice, Anatomy, Materia Medica, Physiology, Surgery, and Obstetrics, upon the subjects of their lectures.

In the Spring Session, besides the daily Clinics, Recitations, and Special Practical Courses, as in

Winter, there will be lectures on Special Subjects by the members of the Post-Graduate Faculty.

The Dissecting-room is open throughout the entire Collegiate Year: material is furnished free of charge.

Students who have studied two years and have attended two full courses of lectures, may be admitted to examination in Chemistry, Anatomy, and Physiology, and, if successful, will be examined at the expiration of their full course of study, on Practice, Materia Medica and Therapeutics, Surgery, and Obstetrics; but those who prefer it may have all their examinations at the close of their full term.

Fees.—These are: for Course of Lectures, 140 dollars; Matriculation, 5 dollars; Demonstrator's Fee (including material for dissection), 10 dollars; Graduation Fee, 30 dollars; Post-Graduate Certificate, 30 dollars.

BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK.

THE teaching staff of the College consists of the following professors: Dr. Isaac E. Taylor (Obstetrics and Diseases of Women)—*Emeritus;* Dr. James R. Wood (Surgery)—*Emeritus;* Dr. Fordyce, Barker (Clinical Midwifery and Diseases of Women); Dr. B. W. McCready (Materia Medica and Therapeutics and Clinical Medicine)—*Emeritus;* Dr. Austin Flint (Principles and Practice of Medicine, and Clinical Medicine); Dr. W. H. Van Buren (Principles and Practice of Surgery, Diseases of the Genito-Urinary System, and Clinical Surgery); Dr. Lewis A. Sayre (Orthopædic Surgery, and Clinical Surgery); Dr. Alexander B. Mott (Clinical and Operative Surgery); Dr. Wm. T. Lusk (Obstetrics and Diseases of Women and Children, and Clinical Midwifery); Dr. A. A. Smith (Materia Medica and Therapeutics, and Clinical Medicine); Dr. Austin Flint, jun. (Physiology and Physiological Anatomy); Dr. Joseph D. Bryant (General, Descriptive, and Surgical Anatomy); Dr. R. Ogden Doremus (Chemistry and Toxicology); Dr. Edward G. Janeway (Pathological Anatomy and Histology, Diseases of the Nervous System, and Clinical Medicine); Dr. Henry D. Noyes (Ophthalmology and Otology); Dr. John P. Gray (Psychological Medicine and Medical Jurisprudence); Dr. Erskine Mason and Dr. J. W. Howe (Clinical Surgery); Dr. Edward L. Keyes (Dermatology, and Adjunct to the Chair of Principles of Surgery); Dr. J. L. Smith (Diseases of Children); also the following lecturers: Dr. L. M. Yale (Adjunct, upon Orthopædic Surgery); Dr. Beverley Robinson (Clinical Medicine); Dr. F. H. Bosworth (Diseases of the Throat); Dr. C. A. Doremus (Practical Chemistry and Toxicology, and Animal Chemistry); Dr. F. A. Castle (Pharmacology); Dr. W. H. Welch (Pathological Histology); Dr. T. H. Burchard (Surgical Emergencies); Dr. C. S. Bull (Ophthalmology and Otology); Dr. A. R. Robinson (Normal Histology).

The Collegiate Year in this Institution embraces the Regular Winter Session, and a Spring Session. The Regular Session begins on Wednesday, September 21, 1881, and ends about the middle of March 1882. During this Session, in addition to four didactic lectures on every week day except Saturday, two or three hours are daily allotted to clinical instruction. Attendance upon two regular courses of lectures is required for graduation. The Spring Session consists chiefly of recitations from text-books. This Session begins about the middle of March, and continues until the middle of June. During this Session, daily recitations in all the departments are held by a corps of examiners appointed by the Faculty. Short courses of lectures are given on special subjects, and regular clinics are held in the Hospital and in the College building.

Fees.—1. For the first and second years, each 140 dollars; for all third year's students and all graduates of other colleges, 100 dollars; Matriculation fee, 5 dollars; Demonstrator's ticket (including material for dissection), 10 dollars; Graduation fee, 30 dollars, or 10 dollars for each of the yearly examinations. 2. For the Spring Session: Matriculation (ticket valid for the following winter), 5 dollars; Recitations, Clinics, and Lectures, 35 dollars; Dissection (ticket valid for the following winter), 10 dollars.

The Matriculation Examination consists of English composition (one foolscap page of original composition upon any subject, in the handwriting of the candidate); Grammar, an examination upon the above-mentioned composition; Arithmetic, including vulgar and decimal fractions; Algebra, including simple equations; Geometry, first two books of Euclid. This examination will be waived for those who have received the degree of A.B., those who have passed the freshman examination for entrance into any incorporated literary college, those who present certificates of proficiency in the subjects of the matriculation examination from the principal or teachers of any reputable high school, and those who have passed a matriculation examination at any recognised medical college or at any scientific school or academy in which an examination is required for admission.

HARVARD UNIVERSITY, BOSTON.

ALL candidates for admission who hold no degree in arts or science, must pass a written examination on entrance to this School, in English, Latin, Physics, and in any one of the following subjects: French, German, Elements of Algebra or of Plain Geometry, Botany.

Instruction is given by lectures, recitations, clinical teaching, and practical exercises, distributed throughout the academic year. The year, which begins on September 29 and ends on the last Wednesday in June 1882, is divided into two equal terms.

The course of study recommended by the Faculty covers four years, but until further notice the degree of Doctor of Medicine will continue to be given upon the completion of three years of study, to be as ample and full as heretofore. The degree of Doctor of Medicine *cum laude* will be given to candidates who have pursued a complete four years' course, and obtained an average of 75 per cent. upon all the examinations of this course. In addition to the ordinary degree of Doctor of Medicine as heretofore obtained, a certificate of attendance on the studies of the fourth year will be given to such students desiring it as shall have attended the course, and have passed a satisfactory examination in the studies of the same.

The order of studies and examinations for the four years' course is as follows: *First Year.*—Anatomy, Physiology, and General Chemistry. *Second Year.*—Practical and Topographical Anatomy, Medical Chemistry, Materia Medica, Pathological Anatomy, Clinical Medicine, Surgery, and Clinical Surgery. *Third Year.*—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery,

and Clinical Surgery. *Fourth Year.*—Ophthalmology, Otology, Dermatology, Syphilis, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Obstetrics, Clinical and Operative Obstetrics, Clinical Medicine, Clinical and Operative Surgery, Hygiene, Forensic Medicine. Students are divided into four classes, according to their time of study and proficiency, and during their last year will receive largely increased opportunities of instruction in the special branches mentioned. Students who began their professional studies elsewhere may be admitted to advanced standing; but all persons who apply for admission to the advanced classes must pass an examination in the branches already pursued by the class to which they seek admission. The examinations are held in the following order: End of first year—Anatomy, Physiology, and General Chemistry. End of second year—Topographical Anatomy, Medical Chemistry, Materia Medica, and Pathological Anatomy. End of third year—Therapeutics, Obstetrics, Theory and Practice of Medicine, Surgery. End of fourth year—Ophthalmology, Otology, Dermatology, Syphilis, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Obstetrics, Clinical and Operative Obstetrics, Clinical Medicine, Clinical and Operative Surgery, Hygiene, Forensic Medicine.

The order for the three years' course is as follows: *First Year.*—Anatomy, Physiology, and General Chemistry. *Second Year.*—Practical and Topographical Anatomy, Medical Chemistry, Materia Medica, Pathological Anatomy, Clinical Medicine, and Clinical Surgery. *Third Year.*—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, Clinical Surgery, Ophthalmology, Dermatology, Syphilis, Otology, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Hygiene, Forensic Medicine. Students following this course are classified as heretofore, and the instruction in the special branches is of the same character as that which has been given for several years. The examinations of the first two years are common to both groups of students. The final examinations at the close of the third year are in the following subjects: Therapeutics, Obstetrics, Surgery and Clinical Surgery, Theory and Practice, Clinical Medicine.

Examinations in all subjects are also held before the opening of the School, beginning September 27.

Every candidate for a degree must be twenty-one years of age; must have studied medicine three or four full years, have spent at least one continuous year at this School, have passed a written examination upon all the prescribed studies of the course taken, and have presented a thesis.

Course for Graduates.—For the purpose of affording to those already Graduates of Medicine additional facilities for pursuing clinical, laboratory, and other studies, in such subjects as may specially interest them, the Faculty has established a course which comprises, in addition to the list of special departments above stated, the following branches: Histology; Physiology; Medical Chemistry; Pathological Anatomy. On payment of the full fee the privilege of attending any of the other exercises of the Medical School, the use of the laboratories and library, and all other rights accorded by the University will be granted. Single branches may also be pursued. Graduates of other Medical Schools who may desire to obtain the degree of M.D. at this University will be admitted to examination for this degree after a year's study in the Graduates' Course. Examination on entrance is not required.

Fees.—The fees are: for Matriculation, 5 dollars; for the year, 200 dollars; for one term alone, 120 dollars; for Graduation, 30 dollars. For Graduates' course the fee for one year is 200 dollars; for one term, 120 dollars; and, for single courses, special fees. Payment is made in advance.

Members of any one department of Harvard University have a right to attend lectures and recitations in any other department without paying additional fees.

JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

The lectures during the coming winter session will be delivered by the following professors: Dr. Samuel D. Gross (Institutes and Practice of Surgery); Dr. Ellerslie Wallace (Obstetrics and Diseases of Women and Children); Dr. Roberts Bartholow (Materia Medica and General Therapeutics; Dr. Henry C. Chapman (Institutes of Medicine and Medical Jurisprudence); Dr. J. M. Da Costa (Practice of Medicine); Dr. W. H. Pancoast (General, Descriptive, and Surgical Anatomy); Dr. Robert E. Rogers (Medical Chemistry and Toxicology); Dr. Joseph Pancoast is *Emeritus* professor of Anatomy.

A summer course of Supplementary Lectures is given, extending through April, May, and June. There is no additional charge for this course to matriculates of the College, except a registration fee of 5 dollars; non-matriculates may pay 35 dollars, which is, however, credited on the amount of fees paid for the ensuing Winter Course.

Clinical Instruction is given throughout the year at the Hospital of Jefferson College, which accommodates 100 patients. The staff is constituted as follows—*Physicians:* Dr. J. Solis-Cohen, Dr. J. C. Wilson, Dr. O. P. Rex, Dr. W. W. Vanzalvah; *Surgeons:* Dr. J. H. Brinton, Dr. S. W. Gross, Dr. R. J. Levis; *Ophthalmic Surgeon:* Dr. W. Thompson; *Aural Surgeon:* Dr. L. Turnbull; *Gynæcologists:* Dr. F. H. Getchell, Dr. J. E. Mears; *Pathologist:* Dr. M. Longstreth.

A candidate for the degree of M.D. must be of good moral character and at least 21 years of age. He must have studied medicine for not less than three years, and have attended at least two full winter sessions of lectures, one of which must have been in this College. At least one course of Practical Anatomy and one of Clinical Instruction must have been attended; and he must present a thesis, of his own composition and in his own handwriting, on some medical subject.

No honorary degrees in medicine are granted by this College.

The *Fees* are: for a full Course, 140 dollars; Matriculation Fee (paid once only), 5 dollars; Practical Anatomy, 10 dollars; Graduation Fee, 30 dollars.

JOHNS HOPKINS UNIVERSITY, BALTIMORE.

The Johns Hopkins University provides a special collegiate course for those who intend afterwards to study medicine. This course extends throughout three years, and the A.B. degree is conferred on matriculated students who complete it. The main object held in view is to utilise for intending medical students the opportunities for practical study in physics, chemistry, and biology, found in an en-

dowed institution with well-equipped laboratories, and often wanting in medical schools; it is also considered an object to lessen the work at a medical school by giving the student a good knowledge of the sciences which lie at the basis of the medical art before he commences professional study. Physics, chemistry, and biology are therefore the main subjects included in the course; some knowledge of French and German is also demanded; and there are, in addition, several subjects between which an option is allowed. These are Latin, Greek, mathematics, English literature, history, logic, and psychology. Each student must take up at least two of these optional subjects, the amount of knowledge required in each being such as would be obtained by a year's honest work.

The scientific subjects are taken up in the following order.

I. *Physics*—There will be three recitations, two lectures, and one exercise in the physical laboratory weekly through a year. Elementary mechanics will be studied during the first portion of the year; then will follow the study of the physical properties of matter, theory of undulations, acoustics, heat, magnetism, electricity, and light.

II. *Chemistry*—The course of lectures and recitations on general chemistry is in progress through the year. Students of this course are expected to attend all these exercises during the first year, and during the last half of the first year and the first half of the second year to work daily in the chemical laboratory. The instruction in the laboratory will be directed in such a way as seems best adapted to give the student a thorough knowledge of the pure science of chemistry and the methods peculiar to it.

III. *Biology*—The study of biology will begin in the second year, after the student has made considerable progress in the study of physics and chemistry, and will continue through the third year. Those who have acquired elsewhere sufficient knowledge of the above subjects to satisfy the examiners may be at once admitted to work in the biological laboratory.

The course is designed to give the student, in the place, a knowledge of the laws of life in general, whether exhibited in animals or plants; and, secondly, a knowledge of human anatomy and physiology. Human physiology is taught as a part of general physiological science, the student being left to acquire afterwards its clinical and hygienic applications as part of his medical studies proper; and similarly surgical and regional anatomy are left for the medical school proper; the student in this course studies the human body as the final one in a series of animal types. It is believed that by approaching these sciences from a general scientific stand-point, the student is best prepared for the study of pathological structure and function; and that a great advantage will result from his being able to concentrate his attention on the professional applications of these students when he enters a medical school. The course of study is as follows. 1. *General Biology*—Lectures, recitations, or examinations four times weekly throughout one year, with daily laboratory instruction. In this course, beginners are taught how to use the microscope and to dissect. 2. *Human and Comparative Osteology*—About sixty lectures or recitations. 3. *Human Anatomy.*—This course extends from the commencement of the closing academic year to the end of March, and consists chiefly of demonstrations and practical study in the dissecting-room. 4. *Animal Physiology and Histology.*—Three lectures or examinations weekly throughout the academic year. The microscopic structure of the tissues and organs is studied, except so much as may have already been gone through in the course of general biology. Students are required to perform for themselves the simpler physiological experiments. 5. From time to time short advanced courses of lectures on special physiological topics are delivered.

Instruction is also provided in mathematics, ancient and modern languages, history, psychology, English philology and literature, comparative anatomy, botany.

Graduates from approved institutions, having already obtained a liberal education, concentrate their attention on the scientific courses, and so complete the curriculum preliminary to medical studies in less than three years. On the other hand, a student may spend a longer time in these preparatory studies, or take up additional ones. Medical men or others properly fitted to profit by such opportunities are received for advanced study or investigation in chemistry, histology, or physiology, as well as other subjects. Twenty fellowships, each bringing in five hundred dollars per annum, are annually awarded to advanced students, at least three being in chemistry and an equal number in biology.

CANADA.

THE following are the Medical Examining Bodies and Schools in the several provinces constituting the Dominion of Canada.

NOVA SCOTIA.—University of Halifax Faculty of Medicine; Halifax Medical College.

ONTARIO.—College of Physicians and Surgeons of Ontario; Medical Faculty of the University of Victoria College, Coburg; Medical Faculty of Queen's College, Kingston; Royal College of Physicians and Surgeons, Kingston; Medical Faculty of the University of Ottawa; Toronto University Faculty of Medicine; Trinity College Faculty of Medicine, Toronto; Toronto School of Medicine; Trinity Medical School.

QUEBEC.—College of Physicians and Surgeons of Quebec; Bishop's College University Faculty of Medicine, Montreal; Laval University, Montreal and Quebec: McGill University Faculty of Medicine.

TRINITY COLLEGE UNIVERSITY FACULTY OF MEDICINE.

THE following are the requisites for admission to the Degree of Bachelor of Medicine in this University. The candidate must have passed a Matriculation Examination in the following subjects, or one equivalent thereto, in this or in some other recognised institution. The subjects comprised are: English Language (including Grammar and Composition); Arithmetic; Algebra (including Simple Equations); Geometry (first two Books of Euclid); Latin (Translation and Grammar); and one of the following optional subjects: Greek, French, German, Natural Philosophy, including Mechanics, Hydrostatics, and Pneumatics. A Graduate or Matriculant in Arts, in any recognised University in Her Majesty's Dominions, is not required to pass the Matriculation Examination. He must produce a satisfactory certificate of good conduct, must be 21 years of age, and

must have pursued Medical studies for at least four years, and have regularly attended lectures extending over at least three sessions* of six months each; viz., two courses of six months each on Anatomy, Practical Anatomy, Theory and Practice of Medicine, Principles and Practice of Surgery, General Chemistry, Midwifery, and Diseases of Women and Children, Materia Medica, and Therapeutics, Physiology and Institutes of Medicine; and one course on each, Medical Jurisprudence, Toxicology, Practical Chemistry, Botany, and Sanitary Science. He must also have attended for at least eighteen months the practice of some General Hospital, and have attended, during two sessions, Clinical Lectures on Medicine and Surgery; and, for at least six months, the practice of a Lying-in-Hospital; or he must have otherwise enjoyed equivalent obstetrical advantages, with attendance upon at least six cases of Labour. He must have passed in this University an examination in all the above subjects. This course of study may have been pursued either wholly in Trinity Medical School, or partly in some other recognised Medical School. The last requirement does not apply to medical men coming up for an examination who have been several years in practice.

The examinations are Primary and Final. The Primary Examination embraces Descriptive Anatomy, Physiology and Microscopical Anatomy, General Chemistry and Chemical Physics, Practical Chemistry, Materia Medica and Therapeutics, Botany. It may be passed at the close of the second year's lectures.

The Final Examination embraces Medical and Surgical Anatomy, Theory and Practice of Medicine, including Medical Pathology, Principles and Practice of Surgery, Midwifery and Diseases of Women and Children, Medical Jurisprudence and Toxicology, and Sanitary Science. It takes place at the close of the last Winter Session.

Should the candidate desire it, he may undergo his entire examination in all the branches at the end of his last year's study. The examinations are held annually in the spring.

Degree of M.D.—Candidates for this Degree must be Bachelors of Medicine of at least six months' standing. They are required to send in, at least one month before Convocation, a Thesis on some Medical Subject, which Thesis must be approved by the Board of Examiners.

Fees.—These are: Primary Examination for the Degree of M.B., 10 dollars; Final ditto, 14 dollars. Full Fee, including all College Examinations, 24 dollars. There is no additional fee for the degree of M.D.

HALIFAX UNIVERSITY AND MEDICAL COLLEGE.

CANDIDATES for the degree of Doctor of Medicine must have attended lectures for at least four years after passing the Matriculation Examination. This examination comprises the following subjects: 1. *Compulsory:* English Language (including Grammar, Composition, and Writing from Dictation); Arithmetic (including Vulgar and Decimal Fractions and the Extraction of the Square Root); Algebra (to the end of Simple Equations); Geometry (first two books of Euclid); Latin (one book, Translation and Grammar). 2. *Optional:* One of the following subjects: History of England, with questions in Modern Geography; French Translation; German Translation; One Greek Book; Natural Philosophy (including Mechanics, Hydrostatics, and Pneumatics); History of Nova Scotia; History of the Dominion of Canada. The fee is five dollars, and is not returned in case of failure. Candidates for this examination must be at least 16 years of age. Graduates in Arts of recognised Universities are not required to pass the Matriculation Examination.

Instruction in medicine in the surgery of a recognised practitioner for one year is received as equivalent to a year of study.

The professional examination is divided into primary and final. The former comprises Anatomy, Chemistry, Materia Medica, Physiology and Botany or Zoology; the latter, Medicine, Surgery, Obstetrics, and Medical Jurisprudence. Candidates may present themselves for the primary examination at the end of the third session, or third year of study.

Candidates for the final examination must produce certificates of having attended two six months' courses each of Anatomy, Chemistry, Materia Medica, Physiology, Surgery, Midwifery, Medicine, Practical Anatomy, Clinical Medicine, and Clinical Surgery; one three months' course each of Practical Pharmacy, Medical Jurisprudence, Botany, and Practical Chemistry; the practice of a recognised Hospital during twelve months; the practice of a Lying-in Hospital for at least six months (or of having attended at least six cases of labour); of having had three months' practice in Dispensing; and of having acquired proficiency in the practice of Vaccination. One session at least must be attended in the Halifax Medical College. Each candidate must present a thesis on some medical or surgical subject, and sign a declaration that he is twenty-one years of age. The examination is oral and written, in all branches; and there is a Clinical Examination in Medicine and Surgery at the bedside.

The fee for the degree of Doctor of Medicine and Master of Surgery is twenty dollars, with a registration fee of one dollar.

McGILL UNIVERSITY FACULTY OF MEDICINE.

THE Matriculation Examination comprises the following subjects: English Language (including Grammar and Composition); Arithmetic (including Vulgar and Decimal Fractions); Algebra (including Simple Equations); Geometry (first two books of Euclid); Latin (Translation and Grammar); and one of the following optional subjects: Greek, French, German, Natural Philosophy, including Mechanics, Hydrostatics, and Pneumatics. Graduates in Arts of recognised Universities are not required to submit to the Matriculation Examination; and a certificate of having passed this examination before the College of Physicians and Surgeons of Ontario or of Quebec is accepted.

No one can be admitted to the degree of Doctor of Medicine and Master of Surgery who shall not, in this or in some other University, College, or Medical School, approved of by this University, either have attended lectures for at least four six-months' sessions, or studied Medicine during at least four years, and during that time have attended lectures for at least three six-months' sessions.

Candidates for the Final Examination must furnish testimonials of attendance on the following courses: Anatomy, Chemistry, Materia Medica and Pharmacy, Institutes of Medicine, Principles and Practice of Surgery, Midwifery and Diseases of Women and

* Students beginning their studies after June 1881, will be required to attend Four Sessions, unless in the case of Graduates in Arts.

Children, Theory and Practice of Medicine, Practical Anatomy, Clinical Medicine, Clinical Surgery—each two six-months' courses; Medical Jurisprudence—one course of six months or two courses of three months; Practical Chemistry, Botany or Zoology, Hygiene—each one three-months' course duration; not less than twenty-five Demonstrations upon Microscopic Anatomy, Physiology, and Pathology. Testimonials equivalent to, though not precisely the same as those above stated, may be presented and accepted. The candidate must have attended during eighteen months the practice of the Montreal General Hospital, or that of some other approved Hospital, and have compounded medicines for six months. He must also have attended for at least six months the practice of the University or other approved Lying-in Hospital, and have attended at least six Accouchements.

Every candidate for examination must have attended at least one session at this University, and one full course of all the branches included in its curriculum.

The examinations at the close of each session are arranged as follows: *First Year.*—Elementary Anatomy and Physiology; Chemistry (Chemical Physics and Chemical Philosophy); Materia Medica; Practical Anatomy; Botany. *Second Year.*—Primary Pass Examination—Anatomy; Practical Anatomy; Physiology; Chemistry; Practical Chemistry; Materia Medica. *Third Year.*—Sessional Examination—Medical Jurisprudence, with Toxicology; Hygiene;* Medicine; Surgery; Midwifery. *Fourth Year.*—Final Pass Examination—Medicine, Surgery, Midwifery, Clinical Medicine, Clinical Surgery, Medical Anatomy, Surgical Anatomy.

The Sessional Examinations at the close of the first and third years are compulsory. At the Primary Examination at the end of the second year, the student may leave two branches for the third year; in any case, Chemistry and one other must be taken at the end of the second year.

Fees.—These are: Matriculation, 5 dollars; Registration each session, 4 dollars; Degree, 20 dollars; Registration of Degree, 1 dollar.

BISHOP'S COLLEGE UNIVERSITY FACULTY OF MEDICINE, MONTREAL.

THIS University confers the degrees of Doctor of Medicine and Master of Surgery. The degree of Master of Surgery (C.M.) is not conferred on any person who does not at the same time obtain the degree of Doctor of Medicine (M.D.) Each student must undergo, prior to the commencement of his medical studies, a Preliminary Examination upon the following subjects: English, French, Latin, Arithmetic, Algebra, Geometry, History, Belles-Lettres, and one of the following optional subjects: Greek, Natural and Moral Philosophy. Candidates for degrees must have been engaged uninterruptedly for four years in medical and surgical study; but a certificate of having studied one full year with a duly licensed practitioner reduces the period of study at the University to three sessions. Students must matriculate afresh at the commencement of every session, on or before the 1st of December. Every candidate for graduation must give sufficient evidence by certificates: 1. That he has attended two six months' courses of lectures on each of the following subjects: (*a*) General or Descriptive Anatomy, Principles and Practice of Surgery, Theory and Practice of Medicine, Midwifery and Diseases of Women and Children, Chemistry, Materia Medica and Therapeutics, and Physiology; (*b*) One six months' course or two three months' courses of Medical Jurisprudence, one six months' course of Pathology, one three months' course of Botany, of Hygiene, and also of Practical Chemistry and Microscopy, and also a course of not less than twenty-five demonstrations upon Microscopic Anatomy, Physiology and Pathology; (*c*) Not less than two six months' courses of Clinical Medicine and Clinical Surgery; (*d*) Two six months' courses of Practical Anatomy; (*e*) That he has attended for at least eighteen months, or three periods of six months each, the medical and surgical practice of a Hospital, in which are contained not less than fifty beds, under the charge of not less than two physicians or surgeons, and that he has been engaged for at least six months in compounding and dispensing medicines. That he has attended at least six cases of Midwifery.

Of the four years of medical and surgical study, one full course on each branch mentioned in sections *a* and *b* must be attended in this University.

Every candidate for the degree must, on or before the 1st day of March, deliver to the Dean of the Medical Faculty, a declaration, in his own handwriting, that he has completed his twenty-first year of age (or that he will have done so before the day of graduation); and a statement of his studies, accompanied with proper certificates.

Every candidate is examined both in writing and *viva voce*. The Examinations are divided into Primary and Final. The Primary examination comprehends Anatomy, Chemistry, Practical Chemistry, Materia Medica, Physiology, and Botany or Zoology. The Final Examination includes Practice of Medicine, Clinical Medicine, Surgery, Clinical Surgery, Midwifery and the Diseases of Women and Children, Medical Jurisprudence, Pathology, and Hygiene.

Candidates may be admitted to examination on the Primary branches at the end of the third year of their study. The Final Examination does not take place until the candidate has completed his fourth year.

* May be taken at the end of the second year.

COLLEGE OF PHYSICIANS AND SURGEONS OF ONTARIO.

ALL persons, whatever qualifications they may possess, must be examined by this College in order to obtain a licence to practise in the province of Ontario.

Candidates for the membership of this College must spend four years (forty-eight months) in professional studies after having passed a matriculation examination in the English Language, Arithmetic, Algebra (including Simple Equations), Geometry (first two books of Euclid), Latin (Translation and Grammar), and either Greek, French, German, or Natural Philosophy (including Mechanics, Hydrostatics, and Pneumatics). Graduates in Arts, or students who have matriculated in Arts in any University in the British dominions, are not required to pass the Matriculation Examination; and Graduates in Arts may pass the final examination at the end of three years.

Every candidate must have attended, in an University, college, or school of medicine, two courses of six months each, in Anatomy, Practical Anatomy, Physiology (including Histology), Theoretical Che-

mistry, Materia Medica and Therapeutics, Medicine, Surgery, Midwifery and Diseases of Women and Children, Clinical Medicine and Clinical Surgery; one course of six months, or two courses of three months each, on Medical Jurisprudence; one course of three months in Practical Chemistry and on Botany; one course of not less than twenty-five demonstrations on Histology, Physiology, and Pathology; and one course of twenty-five lectures on Sanitary Science.

The Professional Examination is divided into primary and final. The Primary Examination, at the end of the second winter session, comprises Descriptive Anatomy, Physiology and Histology, Theoretical and Practical Chemistry, Toxicology, Sanitary Science, and Botany. (Graduates in Arts who have attended one course of lectures on Botany, and two on Theoretical Chemistry, and have passed an examination in these subjects, are not subjected to further examination thereon.) The Final Examination comprises Medical and Surgical Anatomy, Theory and Practice of Medicine and Medical Pathology, Surgery and Operative Surgery, Midwifery and Diseases of Women and Children, Operative Midwifery, Medical Jurisprudence, and Materia Medica and Therapeutics.

Before being admitted to the Final Examination, the candidate must have spent six months in the office of a regularly qualified medical practitioner, in dispensing medicine; have attended the practice of a general hospital for twenty-five months; have attended six courses of midwifery; and have attained the age of twenty-one years.

The Primary Examination is entirely oral; the Final is entirely written. Any candidate who fails in any one branch at the Primary Examination is held to have failed in all. Any candidate who passes in four or more branches at the Final Examination, but fails in the others, is required to pass in the latter only at a subsequent examination. Persons intending to practise Homœopathy are, on application, examined by Homœopathic Examiners.

Persons from recognised colleges outside the provinces of Ontario and Quebec must pass the matriculation examination, and afterwards attend one full winter course of lectures during two winter sessions in some one of the Ontario Medical Schools, and such other course or courses as may be necessary to complete the required curriculum; and must pass all the examinations.

The *Fees* are: Matriculation Examination, 10 dollars; Registration, for students not examined by the College Examiners, 10 dollars; Primary Examination, 20 dollars; Final Examination, including Registration, 30 dollars; Diploma of Membership, 10 dollars; annual contribution from members of the college, 1 dollar. No portion of the examinationfees is returned to unsuccessful candidates.

COLLEGE OF PHYSICIANS AND SURGEONS OF QUEBEC.

EVERY medical student of the province of Quebec before beginning his professional studies, must pass a satisfactory examination upon the following subjects: English and French, Latin, Geography, History, Arithmetic, Algebra, Geometry, and Belles-Lettres, and upon any one of the following subjects: Greek, Natural and Moral Philosophy. He must also present a certificate of a good moral character.

The examination is oral and written; and the oral part of the examination is conducted jointly by two examiners, one speaking French and the other English.

The Board may recognise an equivalent preliminary examination before any authorised College or Licensing Board in Her Majesty's Dominion, provided that the same privilege is accorded to the students of this province.

Every medical student must pursue his professional studies during not less than four years from the time of his having passed the Preliminary Examination. Of the four years, three six months' sessions at least must be passed in attendance upon lectures at an University, College, or incorporated School of Medicine recognised by this Board, the first whereof shall be so passed the year immediately succeeding the Preliminary Examination. Every student must pursue the following curriculum of study: General or Descriptive Anatomy, Practical Anatomy, Surgery, Practice of Medicine, Midwifery, Chemistry, Materia Medica and General Therapeutics, the Institutes of Medicine or Physiology, and General Pathology, Clinical Medicine, Clinical Surgery, two six months' courses of each; Medical Jurisprudence, a course of six months, or two courses of three months; Botany and Hygiene, a three months' course of each; and a course of not less than twenty-five demonstrations upon Microscopic Anatomy, Physiology, and Pathology. He must attend the general practice of an Hospital containing not less than fifty beds, under the charge of not less than two physicians or surgeons, for not less than eighteen months, or for three periods of not less than six months each. He must attend six cases of labour, and compound medicine for six months. Each six months' course must consist of 120 lectures except those of Clinical Medicine, of Clinical Surgery, and of Medical Jurisprudence.

The total duration of the examination is one hour and forty-five minutes.

Before examination the candidate must deposit the required fee, and produce satisfactory evidence that he has attained the full age of twenty-one years, and that he has complied with the rules and regulations of the Board.

Fees.—These are: Preliminary or Matriculation Examination, 10 dollars; Diploma or Licence to Practice, 20 dollars; annual subscription, 2 dollars; registration of additional degrees or titles, 1 dollar. If a Candidate for the Licence or for the Preliminary Examination be rejected, he forfeits half the fees.

TORONTO UNIVERSITY FACULTY OF MEDICINE.

THE Degree of Bachelor of Medicine may be obtained, either (1) by taking a Pass Course, or (2) by taking an Honour Course.

Candidates, to enter this faculty, must pass the Matriculation Examination unless (1) they possess a Degree in Arts, not being an Honorary Degree, from any Dominion or British University, or (2) they have already matriculated in the Faculty of Arts, or in the Faculty of Law in this University. Before presenting themselves for the Matriculation Examination, candidates must produce satisfactory certificates of good conduct, and of having completed the sixteenth year of their age. The Matriculation Examination (both Pass and Honours) commences in the latter part of June, and Supplemental Examinations (Pass alone) are held in the latter part of September. Candidates on giving notice of intention to present themselves at the Matriculation

Examination must signify whether they purpose taking the Pass or the Honour Examination. Scholarships are only awarded in connection with the latter. The following groups of subjects must be passed by every Matriculant: 1. Three out of four languages, Latin, Greek, French, and German, one of which must be Latin; 2. Mathematics, including Arithmetic, Algebra to the end of Quadratics, and the first three books of Euclid; 3. English Grammar and Composition, with the Outlines of History and of Modern Geography, and an exercise in Writing to Dictation. Extra Honour papers are set in all the above-mentioned subjects, and special attention is paid to translation from English into the languages. A paper on Chemistry is set for such honour students as may enter for the same. Those candidates are placed in the first class of honours who obtain two-thirds or more of the aggregate number of marks; those who obtain one-half of the aggregate number in the second class. Two Matriculation Scholarships are awarded to the two highest candidates, provided that they have obtained at least sixty per cent. of the aggregate number of marks, exclusive of those allotted to Chemistry. Undergraduates must attend lectures and receive practical instruction, during four years, at a recognised School of Medicine. Each Undergraduate, at the end of each of the four years, must present himself at the Annual Examination. These examinations are styled the first, second, third, and fourth Professional Examinations, and are to be passed by all candidates for the Degree. If a candidate be prevented by sickness, or other unavoidable cause, from attending at one of the Professional Examinations, he may take that examination together with the next following. If a candidate be rejected in one subject only, having shown fair proficiency in the others, he may take that subject along with the work of the next Professional Examination. If a candidate for the First Professional Examination fail to pass in two subjects, the Board of Examiners may recommend that the subjects passed be allowed, and that he shall take the others with the Second Professional Examination. Graduates in Arts of this University, with honours in the department of Natural Sciences, are exempted from the First Professional Examination, and from the fee for the same. They must, however, take Anatomy along with the Second Professional Examination. No candidate can pass a Professional Examination who has not obtained at least one-half of the marks required; nor is a candidate considered as having passed any subject who has not obtained at least one-third of the marks allotted to it. Every undergraduate who proposes to present himself at a Professional Examination must send in to the Registrar a statement (according to a printed form furnished) of the course he is taking, whether Pass or Honour, of the lectures attended, and of the practical instruction received, with the names of the Teachers, and such other particulars as the printed form may indicate, together with the original certificates referred to in the statement.

The following are the certificates required for the different examinations, and the subjects of examination.

First Professional Examination.—Certificates are required: 1. Of Matriculation; 2. Of having attended a course of lectures on each of the following subjects: Anatomy, at least 100 lectures; Inorganic Chemistry, at least 60 lectures; Natural Philosophy, at least 20 lectures; *Botany, at least 40 lectures; *Zoology, at least 40 lectures. Of the above lectures marked*, at least one-third must be of the nature of practical lessons, involving laboratory practice. 3. Of practical instruction in Anatomy during six months. The subjects of examination are: 1. Anatomy of the Bones, Muscles, and Ligaments, and of the Viscera of the Abdomen and Thorax; 2. Elements of Inorganic Chemistry; 3. Elements of Natural Philosophy, Electricity, Heat, and Light; 4. Elements of Botany, including the characters and properties of the following Natural Orders: Ranunculaceæ, Papaveraceæ, Cruciferæ, Caryophyllaceæ, Malvaceæ, Leguminosæ, Rosaceæ, Saxifragaceæ, Onagraceæ, Umbelliferæ, Rubiaceæ, Compositæ, Ericaceæ, Primulaceæ, Scrophulariaceæ, Labiatæ, Solanaceæ, Polyglonaceæ, Euphorbiaceæ, Urticaceæ, Amentaceæ, Orchidaceæ, Liliaceæ, Palmæ, Cyperaceæ, Gramineæ. An acquaintance with the noxious and medicinal plants of the Canadian Flora is expected; 5. Elements of Zoology; and, for candidates for honours, Comparative Anatomy of Vertebrata, and Practical Examination in Natural Philosophy.

Second Professional Examination.—Candidates must produce certificates: 1. Of having attended lectures on Anatomy (second course of 100 lectures); Physiology, Materia Medica and Therapeutics, each at least 100 lectures; Organic Chemistry, at least 40 lectures; 2. Of Practical Instruction in Anatomy (a second course of six months); Histology and Physiological Chemistry, each during at least three months; 3. Of having dissected the human body once; 4. Of being skilled in Compounding and Dispensing Drugs. (This certificate may be from a registered practitioner, the apothecary of a public hospital, or of a public dispensary, or from a member of the Pharmaceutical Societies of Ontario or Quebec.) The subjects of examination are: 1. Elements of Organic Chemistry; 2. Anatomy; 3. Physiology; 4. Materia Medica and Therapeutics; and (for honours) Physiology of Muscle, Nerve, Circulation, etc.

Third Professional Examination.—The candidates must produce evidence: 1. Of having attended lectures on Practice of Medicine, Surgery, Obstetrics, etc.; Clinical Surgery and Medicine, during courses of 100 lectures each; General Pathology, at least 50 lectures; 2. Of having dissected the human body a second time; 3. Of Practical Instruction in Pathological Histology during at least three months. The subjects of this examination are: 1. Practice of Medicine; 2. Surgery and Surgical Anatomy; 3. General Pathology, including Morbid Anatomy and the mode of conducting Necropsies; 4. Obstetrics and Diseases of Women and Children; 5. Clinical Medicine and Surgery.

Fourth Professional Examination.—Certificates are required: 1. Of having attended lectures on:—Clinical Medicine and Surgery, a further course of 100 lectures; Forensic Medicine, 50 lectures; Hygiene, 25 lectures; Medical Psychology, 12 lectures; 2. Of Practical Instruction in Chemistry in its application to Hygiene and Forensic Medicine; 3. Of having attended at least six clinics in a Public Lunatic Asylum; 4. Of having conducted at least six Labours; 5. Of proficiency in Vaccination (certificate received from any registered Practitioner); 6. Of attendance in the wards of a Public Hospital accommodating not less than 100 beds during eighteen months; 7. Of attendance for six months on the out practice of a Hospital, Dispensary, or registered Practitioner; 8. Of having attended twelve necropsies. The subjects of examination are: 1. Practice

of Medicine; 2. Surgery; 3. Forensic Medicine; 4. Hygiene; 5. Medical Psychology; 6. Clinical Medicine and Surgery; 7. Practical Chemistry in its application to Forensic Medicine and Hygiene.

In all the Professional Examinations special importance is attached to the practical part.

Candidates for Honours are entitled to First Class Honours in any of the Professional Examinations if they obtain 75 per cent. of the aggregate marks; those who obtain 66 per cent. will be entitled to Second Class Honours. Extra papers on all the Pass Subjects will be set for Honour candidates, as well as papers on certain subjects, as indicated above. Candidates proceeding to the Degree of M.B. by taking the Honour Course are grouped in two classes. Those receive the Degree with First Class Honours who have been placed in the Honour List in all of the four Professional Examinations, and have obtained First Class Honours in at least three out of the four. Those receive their Degree with Second Class Honours who have been placed in the Honour List in three out of the four Professional Examinations, and have obtained First Class Honours in at least one examination. Candidates for the Degree of M.B. who are also Graduates in Arts of the University with Honours in the Department of Natural Science, are considered as having passed their first Professional Examination with First Class Honours.

Degree of M.D.—Candidates for the Degree of M.D. must be of one year's standing from admission to the Degree of M.B., and have composed an approved thesis upon some medical subject.

Fees.—The fees are: Matriculation, 5 dollars; Registration of exemption from this examination for Graduates in Arts from other Universities, 5 dollars; for Matriculants from other Faculties in the University, 3 dollars; for Graduates in Arts of this University, 2 dollars. No fee is exacted from Graduates in Arts of this University who have taken honours in Natural Science. For each Professional Examination, 2 dollars; a rejected candidate may present himself at the same examination in the following year on payment of 1 dollar. Degree of M.B., 6 dollars; Degree of M.D., 8 dollars; admission *ad eundem gradum*, 10 dollars.

TEXT-BOOKS.

THE object of the subjoined notes is to inform the student in general terms of the works which he may use as text-books. The list is not intended to be exclusive; nor is it our purpose to say always which book is the best in any subject. Some students learn best from one book; others from another. Again, some books are more adapted than others to the teaching of the school to which the pupil belongs. In addition to the ordinary text-books, reference will be made to some which, though not absolutely necessary to the student, may be studied with advantage.

ANATOMY AND PHYSIOLOGY.

The anatomy of the bones is described in the chief text-books, such as those of Quain and Wilson; but there are also some special works on the subject. A sixth edition of Mr. Luther Holden's *Human Osteology* (Churchill) is announced as being in the press. The same firm publishes a *Student's Guide to Osteology*, by Mr. Wagstaffe. There is also Mr. Norton's *Osteology for Students* (Baillière, Tindal, and Cox). The anatomy of the joints is specially and ably treated in Mr. Henry Morris's *Anatomy of the Joints of Man* (J. and A. Churchill). For the early study of anatomy, Mr. St. George Mivart's *Elementary Lessons in Anatomy* (Macmillan and Co.) will be found instructive. The interest of the subject is increased by a demonstration of the chief relations of the structure of man to that of other animals. Among the indispensable text-books treating of human anatomy as a whole must be mentioned Quain's *Elements of Anatomy* (Longmans and Co.), edited by Drs. Sharpey and Allen Thomson, and Mr. Schäfer, Gray's *Anatomy* (Longmans), edited by Mr. Holmes; and Wilson's *Anatomist's Vade-Mecum*, tenth edition, by Dr. G. Buchanan and Mr. H. E. Clark of Glasgow (J. and A. Churchill). Messrs. Smith, Elder, and Co., announce the forthcoming publication on a work on *Human Morphology: a Treatise on Practical and Applied Anatomy*, by Mr. H. A. Reeves. For use in the dissecting-room, Ellis's *Demonstrations of Anatomy* (eighth edition, Smith, Elder, and Co.) has long established its claim as a trustworthy guide. It contains reduced copies of plates in the author's *Illustrations of Dissections*—a work which from its price the student can scarcely be expected to purchase, but which he should not fail to consult for assistance. Another good book for dissectors is Mr. Christopher Heath's *Practical Anatomy* (fourth edition, J. and A. Churchill). Dr. Cleland of Glasgow has also brought out a concise and accurate *Directory for the Dissection of the Human Body* (second edition, Smith, Elder, and Co.); and a *Dissector's Guide*, with illustrations, by Dr. D. J. Cunningham, is published by Maclachlan and Stewart of Edinburgh. Messrs. Hensman and Fisher's *Anatomical Outlines for the Use of Students in the Dissecting-room and Surgical Class-room* (Longmans and Co.) are useful. Braune's *Atlas of Topographical Anatomy*, translated and edited by Mr. Bellamy (J. and A. Churchill), is a valuable book for reference. The drawings are made from plane sections of foreign bodies. There is also Bock's *Atlas of Human Anatomy* (Renshaw); and Messrs. J. and A. Churchill have published a valuable *Atlas of Human Anatomy*, by Mr. Godlee. The same firm have published a third edition of Mr. Flower's *Diagrams of the Nerves of the Human Body*. *A Descriptive Atlas of Anatomy*, by Mr. Noble Smith, has been published by Smith, Elder, and Co. There are also the well-known Quain and Wilson's Anatomical Plates (Smith, Elder, and Co.) Mr. Thomas Cooke's *Tablets of Anatomy and Physiology* (new edition) contain much information in a condensed form, and give useful aid in the study of the larger works. To students who feel interest in the study of Zoology and Comparative Anatomy, we would recommend, as works that will give much information without being too large or costly, Mr. Flower's *Osteology of the Mammalia* (Macmillan and Co.), and Dr. H. A. Nicholson's *Manual of Zoology* and *Advanced Text-Book of Zoology* (Blackwood); as well as Huxley's *Manuals of the Anatomy of Vertebrated and Invertebrated Animals* (J. and A. Churchill), and Huxley and Martin's *Practical Biology*. Professor Gegenbaur's *Elements of Comparative Anatomy*, translated by Mr. F. J. Bell (Macmillan and Co.) is a larger work. For the study of Embryology, the chapter by Dr. Allen Thomson in Quain's *Anatomy*, or the *Elements of Embryology*, by Dr. M. Foster and Mr. Balfour (Macmillan and Co.), should be consulted. The subject is fully treated

by Mr. Balfour in a *Treatise on Comparative Embryology* (Macmillan and Co.)

For instruction in Histology, Mr. Schäfer's *Course of Practical Histology* (Smith, Elder, and Co.), and Dr. Stirling's *Text-Book of Practical Histology* (Smith, Elder, and Co.) are excellent guides; as is also the chapter on General Anatomy in Quain's *Anatomy*. A third edition of Dr. Rutherford's *Outlines of Practical Histology* (J. and A. Churchill) is in course of preparation. The *Atlas of Histology*, by Dr. E. Klein and Mr. Noble Smith (Smith, Elder, and Co.), is a valuable work for reference. Other works which may be consulted are Professor Stricker's collection of essays on *Human and Comparative Histology* (New Sydenham Society) and Heinrich Frey's *Histology and Histo-Chemistry of Man*, translated by Mr. Barker (J. and A. Churchill).

In Physiology, the beginner will find trustworthy guides in Huxley's *Lessons in Elementary Physiology* and Huxley and Martin's *Elementary Biology* (both published by Macmillan and Co.); and, as text-books for use in medical schools, Dr. McKendrick's *Outlines of Physiology in Relation to Man* (Maclehose, Glasgow; Macmillan and Co.; and Fannin and Co. Dublin); Kirkes's *Handbook of Physiology*, edited by Mr. Morrant Baker (J. and A. Churchill); and Dr. Michael Foster's *Text-book of Physiology* (new edition, Macmillan and Co.), are to be recommended; and, for more advanced students, Dr. L. Hermann's *Elements of Physiology*, translated by Professor Gamgee (second edition, Smith, Elder, and Co.); Flint's *Text-Book of Human Physiology* (H. K. Lewis); and Dr. Carpenter's *Principles of Human Physiology*, by Mr. Power (eighth edition, J. and A. Churchill). Dr. Burdon Sanderson has issued a *Syllabus of a Course of Lectures on Physiology* (second edition, H. K. Lewis). The increased study in recent years of Practical Physiology has led to the publication of several guides to this department. *An Elementary Course of Practical Physiology* by Dr. M. Foster and Mr. Langley (Macmillan and Co.) is a book that can be recommended to beginners; while the more elaborate *Handbook for the Physiological Laboratory*, by Drs. Sanderson, Klein, Foster, and Brunton (Churchill), is more fitted for those who desire an extended knowledge of practical physiology.

As guides in the use of the Microscope, there are Dr. Beale's *Microscope in Medicine*, Dr. Carpenter on the *Microscope* (fifth edition, J. and A. Churchill), Wythe's *Microscopist's Manual* (third edition Churchill), Marsh's *Section-Cutting*, (Churchill), and Martin's *Manual of Microscopic Mounting* (second edition, Churchill).

CHEMISTRY.

In Chemistry, among the most approved text-books, are Fownes' *Manual of Chemistry*, edited, in two volumes, Inorganic and Organic, by Mr. Watts (twelfth edition, J. and A. Churchill); Roscoe's *Lessons in Elementary Chemistry;* Miller's *Elements of Chemistry* (Longmans and Co.); Williamson's *Chemistry for Students* (Macmillan and Co.); and Tidy's *Handbook of Modern Chemistry* (J. and A. Churchill.) A little book by Mr. R. M. Murray, entitled *Chemical Notes and Equations for the use of Students* (Maclachlan and Stewart), gives an useful outline of the fundamental principles of chemical science. An elaborate *Treatise in Chemistry*, by Professors Roscoe and Schorlemmer, of Owens College, Manchester, is in course of publication by Macmillan and Co. Bowman and Bloxam's *Practical Chemistry*, seventh edition (J. and A. Churchill), has an established reputation as a practical guide.

For instruction in Physiological Chemistry, there are Dr. Ralfe's *Outlines of Physiological Chemistry* (H. K. Lewis), and Mr. S. W. Moore's *Notes of Demonstrations in Physiological Chemistry* (Smith, Elder, and Co.) Dr. Arthur Gamgee's *Text-Book of the Physiological Chemistry of the Animal Body* (Macmillan and Co.), of which the first volume has been published, is likely to become a standard work on this subject.

BOTANY.

The text-books of Botany in most general use are Bentley's *Manual of Botany* (third edition, J. and A. Churchill); Henfrey's *Elementary Course of Botany*, fourth edition, by Dr. M. T. Masters (Van Voorst); Balfour's *Manual of Botany* (A. and C. Black); Oliver's *Lessons in Elementary Botany;* Prantl and Vines' *Text-book of Botany*. Sach's *Text-book of Botany*, translated by Mr. A. W. Bennett and Mr. W. T. Dyer (Macmillan and Co.) is a valuable work of reference in regard to Structural and Physiological Botany. Bentley and Trimen's admirable plates of *Medicinal Plants* (J. and A. Churchill) should be consulted by the student both of Botany and of Materia Medica.

MATERIA MEDICA AND THERAPEUTICS.

A well-known and useful book as a manual of materia medica is Dr. Garrod's *Essentials of Materia Medica and Therapeutics*, edited by Dr. Buchanan Baxter (sixth edition, Longmans and Co.) It requires however, to be supplemented by a treatise on therapeutics; for which purpose Dr. Ringer's *Handbook of Therapeutics* (eighth edition, H. K. Lewis), Dr. Waring's *Manual of Practical Therapeutics* (third edition, J. and A. Churchill), Dr. Alexander Harvey's *First Lines of Therapeutics* (H. K. Lewis), Dr. Farquharson's *Guide to Therapeutics* (second edition, Smith, Elder, and Co.), and Dr. Sparks's edition of Binz's *Elements of Therapeutics* (J. and A. Churchill), are to be recommended. Dr. Milner Fothergill's *Practitioner's Handbook of Treatment* (second edition, Macmillan and Co.) will be especially welcome to those who are interested in the endeavour to show the agreement between science and practice. Dr. H. C. Wood's *Treatise on Therapeutics* (Smith, Elder, and Co.) pays special attention to the therapeutic action of drugs. Other useful books are Dr. W. G. Smith's *Commentary on the British Pharmacopœia* (Smith, Elder, and Co.), Royle and Harley's *Manual of Materia Medica and Therapeutics* (sixth edition (J. and A. Churchill), Neligan's *Medicines*, edited by Mr. Macnamara (Fannin and Co.), Dr. Scoresby-Jackson's *Note-Book of Materia Medica*, edited by Dr. Moinet (fourth edition, Maclachlan and Stewart, and Simpkin, Marshall, and Co.), Dr. Handsel Griffiths' *Materia Medica and Pharmacy*, edited by Dr. Duffey (Baillière, Tindal, and Cox; and Fannin and Co., Dublin), Dr. R. Bartholow's *Practical Treatise on Materia Medica and Therapeutics* (H. K. Lewis), Thorowgood's *Student's Guide to Materia Medica* (J. and A. Churchill), Milne's *Manual of Materia Medica and Therapeutics*, fourth edition, by Dr. W. Craig (Livingstone, Edinburgh; and Simpkin, Marshall, and Co.), and Dr. Phillips's *Materia Medica and Therapeutics* (J. and A. Churchill). Dr. Lauder Brunton's *Tables of Materia Medica* (Smith, Elder, and Co.) form a most compre-

hensive and valuable syllabus, and will be very useful to the student. So also are Dr. I. Owen's *Tables of Materia Medica* (fourth edition, J. and A. Churchill). Dr. W. H. Griffiths' *Lessons on Prescriptions, and the Art of Prescribing* (Macmillan and Co.) is an useful work. We have already referred, under the head of Botany, to Messrs. Bentley and Trimen's *Medicinal Plants*.

As text-books in the application of Electricity to Medicine, besides Dr. Althaus's *Treatise on Medical Electricity* (Longmans and Co.), the following are likely to prove useful to students; viz., a *Text-Book of Electricity in Medicine and Surgery*, by Dr. G. V. Poore (Smith, Elder, and Co.); a *Handbook of Medical and Surgical Electricity*, and *How to Use a Galvanic Battery*, by Dr. H. Tibbits (second edition, J. and A. Churchill); and Mr. A. de Watteville's *Practical Introduction to Medical Electricity* (H. K. Lewis).

PATHOLOGY.

As a manual of pathology, Dr. T. H. Green's *Introduction to Pathology and Morbid Anatomy* (Renshaw) has gained a deservedly high reputation. The *Lectures on Pathological Anatomy* of Drs. Wilks and Moxon (second edition, J. and A. Churchill), and Dr. J. F. Payne's improved edition of Jones and Sieveking's *Manual of Pathological Anatomy* (J. and A. Churchill), are also good books. An English translation of Virchow's treatise on *Post Mortem Examinations: the Art of Making them*, is published by J. and A. Churchill. Messrs. Smith, Elder, and Co. have published a *Manual of Necroscopy*, by Dr. A. H. Newth, which is intended as a guide to the performance of *post mortem* examinations. Dr. R. J. Lee has brought out a little book entitled *Pathological Anatomy: a Guide in the Post Mortem Room* (Richards, Great Queen Street). It is intended as an introduction to other works on the subject. We would also strongly recommend students to consult, and to possess, if possible, Rindfleisch's *Manual of Pathological Histology*, edited by the New Sydenham Society. Another highly valuable work for reference is Dr. Greenfield's translation of Lancereaux's *Atlas of Pathological Anatomy* (J. and A. Churchill). A *Manual of Pathological Anatomy*, by Cornil and Ranvier (Smith, Elder, and Co.), is in preparation.

MEDICINE.

For the student who is commencing his clinical studies there are several very good guide-books. Among them are Dr. A. W. Barclay's *Manual of Medical Diagnosis* (third edition, J. and A. Churchill), Dr. S. Fenwick's *Student's Guide to Medical Diagnosis* (fifth edition, J. and A. Churchill); Dr. O. Sturges' *Introduction to the Study of Clinical Medicine* (Smith, Elder, and Co.); Dr. Finlayson's *Clinical Manual for the Study of Medical Cases* (Smith, Elder, and Co.); Dr. J. Little's *Note-book for Students beginning the Study of Disease at the Bedside* (Fannin and Co.); and Dr. Warner's *Student's Guide to Medical Case-taking* (J. and A. Churchill.) More advanced students and practitioners may consult with advantage Dr. Da Costa's *Medical Diagnosis* (third edition, Smith, Elder, and Co.) As a guide in physical diagnosis, Dr. Gee's *Auscultation and Percussion* (Smith, Elder, and Co.) may be safely trusted. Other useful books for the same purpose are Flint's *Manual of Percussion and Auscultation* (J. and A. Churchill); and Dr. Reginald Thompson's *Physical Examination of the Chest in Health and Disease* (H. Renshaw).

Among text-books in General Medicine, which may be recommended for the use of the student, are Dr. F. T. Roberts's *Handbook of the Theory and Practice of Medicine* (fourth edition, H. K. Lewis), Dr. J. S. Bristowe's *Treatise on the Theory and Practice of Medicine* (third edition, Smith, Elder, and Co.), Dr. Tanner's *Practice of Medicine* (edited by Dr. Broadbent), Dr. Aitken's *Science and Practice of Medicine* (seventh edition, C. Griffin and Co.) Dr. H. Hartshorne's *Essentials of the Principles and Practice of Medicine* (Smith, Elder, and Co.), Dr. Flint's *Clinical Medicine* (J. and A. Churchill); and Dr. Charteris's *Student's Guide to the Practice of Medicine* (third edition, J. and A. Churchill). The advanced student and the practitioner will do well to consult Dr. Russell Reynolds' *System of Medicine* (five volumes, Macmillan and Co.); Trousseau's *Lectures on Clinical Medicine* (New Sydenham Society); Ziemssen's *Cyclopædia of the Practice of Medicine* (Sampson Low and Co.); Dr. Niemeyer's *Text-Book of Practical Medicine* (H. K. Lewis): Sir Thomas Watson's *Lectures on the Principles and Practice of Physic* (Longmans and Co.)

SURGERY.

Mr. Erichsen's *Science and Art of Surgery* (seventh edition, Longmans and Co.), Mr. Holmes's *Surgery—its Principles and Practice* (second edition, Smith, Elder, and Co.), Mr. Bryant's *Practice of Surgery* (third edition, J. and A. Churchill), and Mr. Gant's *Science and Practice of Surgery* (second edition, Baillière, Tindal, and Cox), are all very complete works, one of which should be in the possession of the student. For those who prefer smaller and more condensed works, there is the well known Druitt's *Surgeon's Vade-Mecum* (eleventh edition, Churchill). Mr. Christopher Heath has brought out a *Student's Guide to Surgical Diagnosis* (J. and A. Churchill). Among the works more specially devoted to Practical Surgery, the late Sir William Fergusson's excellent *System of Practical Surgery* (fifth edition, J. and A. Churchill), holds the foremost place. Other books which may be consulted with advantage are, Mr. Holmes's *System of Surgery* (Longmans and Co.), Mr. Spence's *Lectures on Surgery* (A. and C. Black), Dr. S. D. Gross's *System of Surgery* (fifth edition, Smith, Elder, and Co.), and Billroth's *Lectures on Surgical Pathology and Therapeutics* (New Sydenham Society).

For the guidance of the student who is being instructed in practical and operative surgery, there are several good books. Mr. Christopher Heath's *Manual of Minor Surgery and Bandaging* (sixth edition, Churchill) has for several years enjoyed a high reputation as a trustworthy guide. The *Manual of Operative Surgery on the Dead Body*, by Mr. Thomas Smith and Mr. Walsham (Longmans and Co.); Mr. Berkeley Hill's *Essentials of Bandaging* (fourth edition, Smith, Elder, and Co.); Mr. Bellamy's *Student's Guide to Surgical Anatomy* (second edition, J. and A. Churchill); Mr. Joseph Bell's *Manual of the Operations of Surgery* (fourth edition, Machlachlan and Stewart); and Stimson's *Operative Surgery* (Lewis), are also works which can be recommended. Other larger works, most valuable for reference—and to be procured by the student if possible—are Mr. Jonathan Hutchinson's *Illustrations of Clinical Surgery*, consisting of plates, woodcuts, etc., illustrating surgical diseases, symptoms, accidents,

operations, etc. (published in fasciculi by J. and A. Churchill); Mr. C. Heath's *Course of Operative Surgery*, with coloured plates (J. and A. Churchill); and Mr. Norton's edition of Bernard and Huette's *Text-Book of Operative Surgery* (Baillière, Tindal, and Cox). For the student of Military Surgery, Surgeon-General Longmore's work on *Gunshot Injuries* (Longmans and Co.) and Surgeon-Major Porter's *Surgeon's Pocket-Book*, are essential. A translation, by Dr. Clutton, of Professor Esmarch's *Surgeon's Handbook on the Treatment of Wounded in War*, is also of value.

MIDWIFERY; AND DISEASES OF WOMEN AND CHILDREN.

The text-books of Obstetric Medicine which hold the first place in the present day are, Dr. W. S. Playfair's *Treatise on the Science and Practice of Midwifery* (third edition, Smith, Elder, and Co.); and Dr. Leishman's *System of Midwifery* (second edition, J. Maclehose, Glasgow). Every student should have one or the other of these. For those who prefer smaller books, Dr. D. Lloyd Roberts's *Student's Guide to the Practice of Midwifery* (second edition, J. and A. Churchill) will be useful; there are also Dr. Alfred Meadows's *Manual of Midwifery* (Renshaw) and Dr. C. H. Carter's translation of Karl Schröder's *Manual of Midwifery* (J. and A. Churchill). Drs. Robert and Fancourt Barnes are preparing a *Handbook on Obstetrics* (Smith, Elder, and Co.) As a work of illustrations, Dr. Martin's *Atlas of Obstetrics* and *Gynæcology*, edited by Dr. Fancourt Barnes (H. K. Lewis), is to be recommended. Dr. J. G. Swayne's *Obstetric Aphorisms* (seventh edition, Churchill) are very useful. Dr. Barnes's *Lectures on Obstetric Operations* (third edition, J. and A. Churchill) should be in the possession of every advanced student and general practitioner; as should also the *Clinical History of the Medical and Surgical Diseases of Women*, by the same author (second edition, Churchill). Dr. West's *Lectures on the Diseases of Women* (fourth edition, with additions by Dr. Matthews Duncan, (J. and A. Churchill); Dr. Graily Hewitt's *Diagnosis and Treatment of Diseases of Women* (third edition, Longmans and Co.); Dr. Matthews Duncan's *Clinical Lectures on the Diseases of Women* (J. and A. Churchill); the late Dr. F. Churchill's work on the *Diseases of Women* (sixth edition, Fannin and Co.); Mr. Lawson Tait's *Diseases of Women* (Williams and Norgate); Dr. Emmet's *Principles and Practice of Gynæcology* (J. and A. Churchill); Dr. Gaillard Thomas's *Practical Treatise on the Diseases of Women*; Dr. Heywood Smith's *Practical Gynæcology* (J. and A. Churchill); and Mr. Spencer Wells's treatise on *Diseases of the Ovaries* (J. and A. Churchill), are all valuable books. A manual on *Diseases of Women*, by Dr. Edis (Smith, Elder, and Co.), is in preparation. Other books which will be found useful are Dr. Galabin's *Student's Guide to Diseases of Women* (second edition, J. and A. Churchill); and Dr. Halliday Croom's *Minor Gynæcological Operations and Appliances* (Livingstone, Edinburgh; and Simpkin, Marshall and Co.)

Among text-books on Diseases of Children, must be mentioned Dr. West's well known *Lectures on the Diseases of Infancy and Childhood* (Longmans and Co.); Dr. Fleetwood Churchill's treatise on *The Diseases of Children* (third edition, Fannin and Co.); Dr. W. H. Day's *Manual on the Diseases of Children* (J. and A. Churchill); M. Guersant's *Surgical Diseases of Infants and Children*, translated by Dr. Dunglison (Smith, Elder, and Co.); Meigs and Pepper's *Practical Treatise on Diseases of Children* (H. K. Lewis); Dr. Eustace Smith's *Clinical Studies of Disease in Children* (J. and A. Churchill); Dr. J. L. Smith's *Treatise on the Diseases of Infancy and Childhood* (fourth edition, H. K. Lewis); Dr. Tanner and Dr. Meadows' *Practical Treatise on Diseases of Infancy and Childhood* (third edition, H. Renshaw); and Steiner's *Compendium of the Diseases of Children*, translated by Mr. Lawson Tait (J. and A. Churchill).

SPECIAL SUBJECTS.

There are several good text-books of the special departments which are taught in the schools.—For students of Psychological Medicine, the chief work is Bucknill and Tuke's *Manual of Psychological Medicine* (J. and A. Churchill).—For students of Ophthalmic Surgery, Mr. Soelberg Wells's *Treatise on Diseases of the Eye* (third edition, J. and A. Churchill); Mr. R. B. Carter's *Treatise on Diseases of the Eye* (Macmillan and Co.); Mr. Nettleship's *Student's Guide to Diseases of the Eye* (J. and A. Churchill); Mr. Macnamara's *Manual of Diseases of the Eye* (third edition, J. and A. Churchill); Mr. George Lawson's *Diseases and Injuries of the Eye* (Renshaw); Mr. B. T. Lowne's *Handbook of Ophthalmic Surgery* (Smith, Elder, and Co.), are books that will be useful. Messrs. Churchill have also published the second edition of a little book by Mr. Charles Higgens, entitled *Hints on Ophthalmic Out-patient Practice*. Dr. de Wecker's *Ocular Therapeutics*, translated by Dr. Litton Forbes (Smith, Elder, and Co.), may be consulted with advantage. Mr. E. A. Brown, of the Liverpool Eye and Ear Infirmary, has brought out a little book for instructing students *How to Use the Ophthalmoscope* (Trübner and Co.); and a valuable *Manual and Atlas of Medical Ophthalmoscopy* by Dr. Gowers (J. and A. Churchill) has been published.—In Aural Surgery, Mr. Dalby's book on *Diseases and Injuries of the Ear* (second edition, J. and A. Churchill) is very good; there is also a book by Mr. G. P. Field on *Diseases of the Ear* (second edition, Renshaw); while Dr. Burnett's work on *The Ear: its Anatomy, Physiology, and Diseases* (J. and A. Churchill), and Dr. St. John Roosa's *Practical Treatise on Diseases of the Ear* (fourth edition, H. K. Lewis) are valuable and elaborate works. Dr. Macnaughton Jones has brought out a good *Practical Treatise on Aural Surgery*, and also a well-executed *Atlas of the Diseases of the Membrana Tympani and Auricle* (J. and A. Churchill).—For the use of students in Dermatology, there is the late Dr. Tilbury Fox's treatise on *Skin-Diseases, their Description, Pathology, Diagnosis, and Treatment* (new edition, H. Renshaw). Mr. Malcolm Morris's *Manual of Skin-Diseases* is a very reliable guide. Mr. Erasmus Wilson's *Treatise on Diseases of the Skin*, and his *Lectures on Dermatology* (J. and A. Churchill) are well known and valuable works. Dr. Pullar has translated the *Text-Book of Skin-Diseases*, by Dr. Neumann of Vienna (Hardwicke and Bogue). Dr. R. Liveing's *Handbook on the Diagnosis of Skin-Diseases* (second edition), and his *Notes on the Treatment of Skin-Diseases* (fifth edition, Longmans and Co.), are well deserving of recommendation; so also is Dr. McCall Anderson's *Treatment of Diseases of the Skin* (Macmillan and Co.) Dr. Til-

bury Fox has supplied an excellent *Atlas of Skin-Diseases* (Renshaw); while a work with a similar title by Dr. Duhring of Philadelphia (Lippincott and Co.) is also very good.—For students of Dental Surgery, the following books are published by Messrs. J. and A. Churchill: Tomes's *Manual of Dental Surgery* (second edition); Tomes's *Manual of Dental Anatomy* (second edition); Taft's *Practical Treatise on Operative Dentistry*; Sewill's *Student's Guide to Dental Anatomy and Surgery;* Smith's *Handbook of Dental Anatomy and Surgery* (second edition); Stocken's *Elements of Dental Materia Medica and Therapeutics* (second edition); and Coles's *Manual of Dental Mechanics* (second edition). A *Manual of Dental Surgery and Pathology*, by Mr. A. Coleman, has been published by Smith, Elder, and Co.

FORENSIC MEDICINE AND HYGIENE.

As elementary works of convenient size, and containing valuable instruction, Dr. A. S. Taylor's *Manual of Medical Jurisprudence* (tenth edition, J. and A. Churchill), and Guy and Ferrier's *Principles of Forensic Medicine* (Renshaw) are to be recommended. The more advanced student and the practitioner should consult Dr. Taylor's *Principles and Practice of Medical Jurisprudence* (second edition, J. and A. Churchill); the *Handybook of Forensic Medicine and Toxicology*, by the late Dr. Bathurst Woodman and Dr. Tidy (J. and A. Churchill); Dr. Ogston's *Lectures on Medical Jurisprudence* (J. and A. Churchill); and the translation of Casper's *Forensic Medicine*, published by the New Sydenham Society. The last-named book describes the manner in which medico-legal investigations are carried out on the Continent.

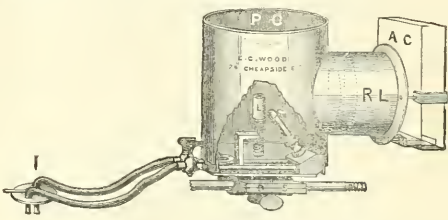
Under the head of Hygiene the principal books are, Dr. Parkes's *Manual of Practical Hygiene*, edited by Dr. de Chaumont (fifth edition, J. and A. Churchill); Wilson's *Handbook of Hygiene and Sanitary Science* (fourth edition, J. and A. Churchill); Dr. de Chaumont's *Lectures on State Medicine* (Smith, Elder, and Co.); Hart's *Manual of Public Health* (Smith, Elder, and Co.); and Hart's *Truth about Vaccination* (Smith, Elder, and Co.)

In June 1882, a second edition of Dr. Richard Neale's *Medical Digest*, the first edition of which was published by the Sydenham Society in 1876, will be issued. It will contain references to the papers which have since appeared in the various journals: to the list of which the *British Medical Journal*, the LONDON MEDICAL RECORD, and the *Practitioner*, will be added. It is intended to publish the work by subscription, at 13s. 6d.: the publishing price to non-subscribers being 18s. The object of the work is to supply the busy practitioner with most that is known on any case with which he may meet; and it has been found highly useful by many as a work of reference. The vast amount of labour and care bestowed on it by the author is such as can scarcely be fully understood except by those who have engaged in similar work; and we feel it a duty to earnestly recommend our readers to recompense Dr. Neale by announcing to him their desire to possess the book.

NEW INVENTIONS.

LENNOX BROWNE'S LIMELIGHT ILLUMINATOR.

This apparatus, intended for use in the examination and treatment of laryngeal, aural, nasal, and ophthalmic cases, is the invention of Mr. Lennox Browne, F.R.C.S. Ed. Senior Surgeon to the Central London Throat and Ear Hospital, etc., London, and is manufactured by Mr. E. G. Wood of Cheapside. It is extremely simple, and is arranged to fix on to the ordinary gas standard usually employed, and does not require any cumbersome arrangement of lantern. A notable advantage in this appliance is, that, should the light temporarily fail from any cause, and a further supply not be obtainable, the whole can be disconnected in two minutes, and the gaslight at once be made available. It can be used either as a direct light, or



with the usual frontal or hand reflector, a point of considerable importance, as reflected light is infinitely preferable where it is desired to follow even slight movements of the patient; and the surgeon can warm his mirror over the lamp, instead of having a second one for that purpose. It is absolutely safe, as the hydrogen and oxygen are conveyed in separate tubes, even to the point of ignition, and the light is free from the hissing noise observable in most of the methods hitherto employed. An important feature in the apparatus is the absorption-cell—a glass tank, with parallel sides held by metal clips in front of the rectifying lenses, and marked A C in the drawing. There is sufficient space between them to allow a free interchange of air. This cell is filled with water, which will not require to be changed unless the apparatus is being used for long periods without intermission, and the water may attain a considerable heat without interfering with its efficiency. The difference in the degrees of heat if the tank is removed is most marked: a thermometer placed within an inch or two of it will be seen to rise rapidly from 40 to 60 deg. The limelight illuminator has evidently been thought out with a great amount of care by the inventor, and the name of the maker is a sufficient guarantee as to its superior make and finish.

DR. E. DIVER'S OBSTETRIC DRESS.

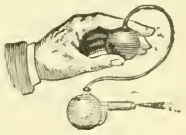
THIS ingenious apparatus, called by the inventor 'The Tocophelia, or couchaide', is designed to utilise the habit which parturient women have of pulling during their pains. The patient, by means of it, is able to accomplish for herself firm pressure to the back where such pressure is grateful, also an even and comfortable support to the uterus; and she is provided with a resting surface for the feet in any

part of the bed. For the act of pulling, this apparatus has a soft woollen cable of suitable thickness. At the end of the cable is a pulley through which a cord runs, and thence through a ring in each of a pair of stirrups, made of broad canvas, for the feet. From the stirrups, the cord is conducted on each side of the patient to a cushioned pad placed over the back, and from this it passes to an abdominal belt, in such a manner that, when she pulls, the cushion is firmly pressed against the back, and the uterus is supported by the abdominal belt. As soon as the patient ceases to pull, the pressure is relaxed: therefore the support is given just when it is wanted, and where it is felt to be useful. The obstetrician will at once perceive the value of this apparatus for almost all ordinary cases of labour, from the beginning of the second stage to the expulsion of the placenta; and afterwards, if needs be. As an abdominal support, it is especially useful in cases of multiparæ, and in plural births; also where the abdomen is pendulous, where hæmorrhage is to be apprehended, or generally where the uterus requires support. On account of the steadiness of the support given to the uterus by this appliance, it is always better than the hand of the accoucheur, who is thus left free to aid in any manner he may see fit. The nurse is also relieved.

The length of the running cord can be adjusted at pleasure by altering the position of the knot near the end. The apparatus is most easily put on; and is taken off without in any way disturbing the patient. To put it on, draw the pads apart and put on over the head, arranging the abdominal belt over the womb and the cushion over the back where the pressure is needed. The feet, with the shoes on, are then placed in the stirrups, and the cable taken in the hands. To take off, simply unbuckle the back cushion (thus separating it from the abdominal belt), and slip the feet out of the stirrups. If back pressure be desired without any abdominal support, this may be obtained by knotting that part of the running cord where it leaves the cushion on its way to the belt. The force supplied is so arranged by the mechanism of the apparatus that distinctly more pressure is given to the back than to the front of the body. This apparatus, which weighs less than a pound, is, when in use, entirely out of the way of the obstetrician, and can be worn in any position—walking, standing, sitting, or lying. The price is one guinea (cash); or with a long cable, 2s. 6d. extra. The long cable round the bed-post can be detached where it passes the middle of the body; the pull is then directly from the feet. The principle is well understood and ingeniously carried out, and we should like to see a fair trial of the invention impartially recorded. The apparatus may be ordered of any surgical instrument makers. It can also be obtained of Messrs. Millikin and Down, St. Thomas's Street, Borough.

MESSRS. BOURNE AND TAYLOR'S NEW INVENTIONS.

Messrs. Bourne and Taylor, Castle Street, Holborn, have several new small appliances of merit. Amongst these is a 'simple' pill-coater, for coating any small quantity, from one dozen to a quarter of a pound. It is made in the form of a small oval box, with handle for the fingers to pass through, and is an outcome of a suggestion of Dr. Symes. By using certain solutions and merely shaking the box for a few minutes, the operation is effectually performed. A new tin-floating light, with reflector, will be found a most useful addition to the nursery or bedchamber. A new and cheap throat or perfume spray-producer is also worthy of notice. It consists of a glass container with two tubes, one from the lower, the other at the upper parts, almost impinging at their points, to which is attached an ordinary India-rubber tube and inflater. There are no metallic parts to corrode, it is effective in action, and is, we



believe, the cheapest article of its kind in the market. Dr. Taylor's glass-inhaler is no less worthy of note, as providing a cheap, clean, and inexpensive article for such purposes, that is within the reach of all classes as regards price. It is a small bottle with wide mouth, and wooden-covered cork-stopper. Into this two glass tubes are inserted, one, a bent one, being for inhalation. The bottle has to be half filled with the infusion, and the cork replaced when it is ready for use. As it is made entirely of clear glass, dirt is immediately discernible, and it can be easily kept clean. Being of so small a size it will prove a boon to invalids travelling, and should command a large sale.

CALVERT'S CARBOLIC VAPORISER.

This is a simple little apparatus, supplying an efficient means of diffusing the vapours of carbolic acid in hospital wards, sick-rooms, and infected houses. It has also been found most effective when used in cow-sheds, shippons, and stables, in the former during the prevalence of foot and mouth disease, pleuro-pneumonia, and tubercular diseases, and in destroying bronchial worms in sheep, and, in the

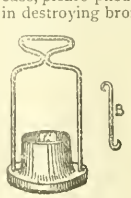


Diagram No. 1 showing various parts of Vaporiser.

Diagram No. 2 showing Vaporiser ready for use.

latter, as a preventive of epidemic diseases and injurious odours; and it has been awarded a certificate of merit by the Sanitary Institute of Great Britain. It is made in two sizes, holding four and eight ounces respectively. Our engravings exhibit the various parts. The iron-heater, A, is placed in a fire until it becomes red-hot, when it is removed by the hook, B, and placed in the box, C; the top, D, is then placed firmly over the heater, and it then appears as in diagram, No. 2. It is inexpensive, and, from its portability, will be found a very useful adjunct to the household as well as the hospital.

Messrs. Calvert and Co., whose works are at Bradford, Manchester, are well-known makers of carbolic acid, and the vapour from it causes no in-

jury to clothing, furniture, or pictures, and may be inhaled with perfect safety. Their carbolised tow is still an undisputed favourite, and the carbolic soaps, made by the same firm, have a large and increasing sale.

SURGICAL APPARATUS.

The five articles described below were shown by Mr. K. R. Schramm in the International Medical and Sanitary Exhibition.

New Clamp or Claw for Amputation below the Elbow.—This is intended to supersede the common hook, and consists of three pieces of steel, representing the first three fingers, slightly bent at the ends, rounded off like the ends of a finger, the ends being rough like a file. Another piece of steel, representing the thumb, is hinged, and is opened and shut by means of a strong hinged screw. By means of this claw a shoe-brush can be firmly held, so that a man is enabled to earn a living by cleaning boots. A broom, brush, oar for rowing, etc., can be held securely; also various tools. The apparatus resembling three fingers and a thumb, provides the means of holding them firmly. It can be further improved by adding a ball and socket-joint which can be fixed at any angle.

Reeves' Universal Talipes Shoe.—This shoe has found favour with those who have seen it; and we are informed that orders for it are received from all parts of the country– a substantial proof of its value. Although it has been introduced some time, it appears to be not yet known to the majority of the profession.

Schramm's Universal Truss.—This truss is made on the same principle as the shoe above-mentioned. The pad can be fixed at any angle. It is intended to be a hospital and dispensary truss for slight cases. It is intended for femoral and inguinal hernia on the right or the left side. It is also suited for scrotal hernia, by making a different shaped head.

New Operating Table.—This table, made by A. Sandoz of Neuchâtel, Switzerland, answers every requirement in regard to easy manipulation, elegance, and strength of construction. It can be put in any position; and by means of a large wheel, which is under the table, it can be made longer or shorter, higher or lower. The position can be altered without removing the patient or causing him any pain. It rests on a heavy cast-iron foot, in the centre of which is a strong upright piece, in which works a large screw, mounted by a fly-wheel. At the four corners of the feet are hinged steel tubes, in which are pistons for lengthening and shortening. The four ends of these pistons carry a frame, also of steel tubing, and pistons for elongating. The pistons can be fixed by a powerful screw-collar. A head-piece or back-piece which works in a segment, and five oak-wood boards, which are fixed by hooks, complete the table. The whole is nickel-plated, except the foot.

The Pelvic Band.—This appliance ought to be better known, because the results are, it said, very satisfactory in the great majority of cases. It is made for cases of debility, the first stage of curvature, internal displacements, and pendulous abdomen. It is extremely light, and acts as a gentle spring, tending to put the displaced parts in proper position by gentle pressure.

Dr. Protheroe Smith is the inventor of the band, which has lately been greatly improved in construction, durability, and usefulness. The same principle is carried out by means of similar appliances, with the best results, by Mr. H. H. Bigg of London; Dr. Banning, America; Herr Nyrop of Copenhagen, etc.

LYNCH AND CO.'S SPECIALITIES.

Messrs. Lynch and Co., of 192, Aldersgate Street, E.C., have introduced the following appliances.

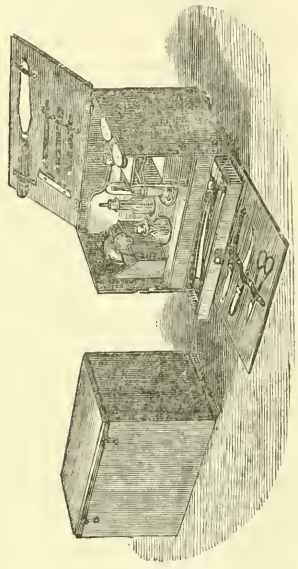
The Household Syringe is one very suitable for the general practitioner, as, in addition to the usual pipes for the rectum and vagina, there are also douche pipes for the eye, ear, and nose. The whole is enclosed in a neat mahogany box. Price to the profession, 7s. 6d. each.

The Family Perfection Enema Syringe is a most useful instrument, having elastic pipes for children and for the vagina, as well as the usual rectum pipe for adults.

Adaptable Truss, by which the pressure of the spring can be increased or lessened, and the angle of the pad altered so as to make it suitable for the various kinds of hernia.

PHYSIOLOGICAL MOUNTING CABINETS.

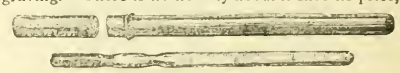
Mr. J. B. Medland, of the Borough High Street, has recently introduced some very cheap and complete cabinets for the physiological student, and for those more advanced in the science, that must commend themselves to all interested in it. We illustrate one open, and closed, which gives a good idea of the contents, which we may broadly say contain everything that is necessary, even the trays to hold six dozen specimens. The idea suggested to the inventor by Mr. C. H. Golding-Bird, Dr. Harris, and other demonstrators, was to fit up in a case of the



most portable character all the instruments and other appliances required in prosecuting the science, which have hitherto been carried loose by the student. The advantages of having everything at hand, and obtainable at a price little over the cost of the appliances themselves, is so great, that we anticipate a large sale for the Medland Cabinets; and no excuse can now be tolerated in class for the absence of anything required, as there is a place for everything, and nothing appears to have been forgotten. Mr. Medland also supplies very cheap cabinets, containing six dozen trays in mahogany, and another of polished pine, with skeleton trays to take the glass; the advantage of this being, that the specimens required may be seen more readily than in those with solid bottoms.

CLINICAL THERMOMETER.

A clinical thermometer, lower in price than any yet introduced, has just been brought out by Messrs. Joseph Davies and Co., the well-known meteorological instrument makers, Fitzroy Works, Kennington Park Road, of which we append an engraving. There is no novelty about it save its price,



the name of the makers being a guarantee as to quality. It is sent out either in ebony or nickel silver case, and is a compact and attractive-looking little article.

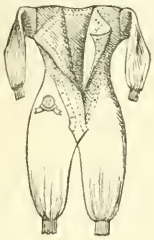
A HYGIENIC PERFUME.

Murray and Lanman's 'Florida Water', which has stood the test of eighty years' life in the United States, has recently been introduced here by Messrs. Burroughs, Wellcome, and Co., Snow Hill, E.C. It is of the Cologne character, but possesses a more delicate fragrance than the Rhenish perfumes. At the same time it is antiseptic and well adapted for purifying the atmosphere of the sick room. It is most popular throughout the entire American continent; and since its introduction into the principal European cities, it has largely superseded the Eau de Colognes. In the tropics, where it is used extensively in the bath, it is looked upon as a necessity, from the invigorating and refreshing properties it exercises upon the system, and for all the purposes Eau de Cologne is applicable, Florida water will be found its compeer.

HYGIENIC CLOTHING.

During the last ten years public opinion in Germany appears to have been much interested in a theory propounded by Professor Gustav Jaeger of Stuttgart, who, in several articles published in *Immunity from Epidemics and Constitutional Vigour*, and in *The Working Power of Man*, advocated a radical change in the clothing of the whole human race. The arguments urged by the Professor met with much approval from leading medical practitioners, and it then only became necessary to introduce the system which he has called 'normal' or 'rational' clothing to submit it to practical tests. Having patented his idea, not only in Germany and Austria, but in England, America, and most European countries, he selected Messrs. Wm. Benger and Sons of Stuttgart to manufacture the clothing, the use of which has since spread rapidly through Germany and Austria, and has now reached our country. Dr. Jaeger starts with the theory that our present system of clothing is unsound in principle, and in many instances injurious to the health of the body and vigour of the mind. He urges that all cotton, linen, or mixed material should be discarded, as not being capable of absorption, and tending to obstruct the natural process of evaporation. He, therefore, selects sheep's wool as the proper constituent of his hygienic garments. The advantages of this material are obvious, as wool, when woven into tissues, possesses, above all textile fabrics, a peculiar power of absorption, and of acting as a non-conductor, preserving an equable temperature of the body. But wool fabrics, as they have hitherto been woven, are, to many persons, highly objectionable, irritating the skin, and from the principle on which they are made, not allowing that free escape for the exhalations which the inventor aims at providing; besides which they are heavy, and can scarcely be worn in the summer, which offers another difficulty to the

theory, viz., that the same garments should be worn all the year round. It, therefore, became necessary to alter the whole process of weaving, which has been done by preparing them on the principle known as stocking-net, which is woven more loosely. Space prevents our going minutely into particulars of all the garments advocated, consisting of outer as well as under-clothing, which is partly unnecessary at present, as only the under-garments are offered to the English public. The clothing, of which we append an engraving of a combination garment, is



made in shirts, chemises, or combination garments for both sexes of all ages. In appearance and feel they are very similar to spun silk, and from actual experience we can confidently assert that no garment hitherto made is so comfortable to wear. They are perfectly soft, and will not irritate the most delicate skin; and in the case of shirts the folds adapt themselves to the body in the most comfortable manner. No garment opens in the front. All are, so to speak, double-breasted, and button at the sides and the shoulder. They may be worn through the heat of summer with comfort and without any of the unpleasantnesses attaching to merino, cotton, or spun silk garments; and in colder weather they appear to maintain as much warmth as the heavier wool clothing. Although they have been but a short time here, great success has attended the introduction, and from the medical profession, in particular, orders are flowing in from all sides. The representatives of the makers, Messrs. Newberger and Co., 53, Wood Street, Cheapside, will be pleased to give every information respecting them.

AN IMPROVED REGULATING DIGITORIUM.

An improved regulating digitorium was shown at the recent Medical and Sanitary Exhibition, by Messrs. Horn and Son, 46, Elgin Road, Croydon. It is distinguished from others by three special novel features, viz., the regulating the depth of touch, the regulating of pressure, and an index showing the progress made. It consists of a case containing five or more notes like piano keys, across which is a rail called the key rail, which, being attached by a hinge to each side of the case, may be raised and lowered, thus varying the depth of touch of the notes from a quarter to seven-eighths of an inch. The object of this arrangement is to afford the patient an opportunity of exercising the extensor muscles, apart from the nerve-power required to press various degrees of resisting force. Springs are used to regulate the pressure or resistance of the notes, travelling in a groove underneath the note, these springs being fixed to a rail called the spring rail, which is moved forward to increase the pressure, and backward to diminish it, by means of a screw. Tampering is prevented by means of a key, which may be kept by the medical attendant when the screw is set. An index provided at the side of the instrument, having a pointer which is in connection with the springs and spring rail, shows the progress made in a range of twelve points, the lightest being lighter than a piano note, and the heaviest greater than an organ with all the manuals coupled. This instrument will be sure to find favour with the profession.

ALBISSIMA PAINT.

Attention has recently been directed to sanitary paints through the death of a gentleman said to have taken place by being poisoned through remaining in his house during the time it was being repainted; and it has been urged that, had a sanitary paint been used, it would not have happened. In drawing attention to 'Albissima', a pure white paint, we may add that it is perfectly innocuous and free from lead and other poisonous ingredients, and, on that account, may be used in private houses during the residence of a family without unpleasantness or danger. For these reasons, it is strongly recommended for hospitals, public institutions, and the like. Its covering power is also greater than any other paint, and, owing to its smoothness, it works freer under the brush, and is, consequently, more economical in all its phases. Beautiful tints may be obtained by admixture with various non-poisonous colours, and there is no necessity to use any of those containing arsenic, or other deleterious ingredients. Among the institutions that have recently been repainted with 'Albissima', we may mention the Colston Lunatic Asylum, some of the School-Board buildings, and Highgate Infirmary; and it has also been used in the Houses of Parliament. At the International Sanitary and Medical Exhibition, the only award for paint (of which many were exhibited), viz., the Award of Merit, was given to the Albissima Paint Company, Lime Street, London, E.C.

DIETETIC NOVELTIES.

FELTOE AND SON'S 'SPÉCIALITÉ' LIME-JUICE.

This wholesome preparation of the Lime Fruit is non-alcoholic, requires no sugar, and is remarkable by reason of three great merits, viz.:—it is free from sulphuric acid; it is free from the musty flavour so often found; and it will not turn mouldy. It will, we are assured, keep for any time sound and bright in all climates after it is uncorked. Taken with filtered or aërated water, it makes a delicious drink.

Another great point in its favour over many of the non-alcoholic drinks is, that it contains no pharmacopœial drug. The medical profession largely condemn the habitual use of phosphorus and iron, included in many of the effervescing drinks now extensively announced. They accumulate in the system, and are not considered free from danger.

This lime-juice is introduced by the well-known firm, Messrs. Feltoe and Sons, whose 'Spécialité' sherry has gained an extensive reputation among professional men and the public generally.

F. F

COURT ST. ETIENNE WATERS.

The Court St. Etienne Arsenical Water is one of the most valuable medicinal waters ever introduced to the notice of the profession. It is an arsenical water of great power and richness, combined with the chlorides of calcium, sodium, and nitrate of calcium. The exact analysis is as follows:—

Chloride of Sodium	1.80
Chloride of Calcium	0.34
Nitrate of Calcium	3.03
Sulphate of Calcium	6.26
Sulphate of Potassium	0.39
Iron (Ferric Oxide)	0.35
Silica	0.60
Carbonate of Calcium	2.07
Carbonate of Magnesium	1.03
Organic matter and loss	0.80
Lithia	traces
Arsenic (AS^2 0.5 Arseniate of Sodium)	0.83
Total	17.50

The value of such a water is self-indicated in a great variety of forms of debility, cutaneous diseases, and nerve disorders, as well as in respiratory affections. The range of therapeutic utility of arsenical medication is constantly widening with fresh clinical research. Just now in France, it is almost universal. Admitting that there may be some exaggeration in this, it is certain that the utility of an arsenical water, so rich and so happily constituted, must be very extended and considerable. Court St. Etienne Water deserves the earnest attention of the enlightened therapeutist as a valuable addition to our resources. The agent for Great Britain is E. Watteeu, Royal Exchange, Middlesborough.

ZOEDONE.

Zoedone is a sparkling beverage containing phosphates of calcium, sodium, and potassium, and a minute proportion of iron. It is a non-alcoholic drink, possessing the tonic qualities of the medicinal substances above mentioned. Zoedone, *sans sucre*, is prepared expressly for diabetics, and does not contain the smallest trace of sugar.

MISCELLANY.

DR. SPIEGELBERG, the eminent professor of Obstetric Medicine in the University of Breslau, has lately died at the age of 51.

THE HON. T. A. SCOTT, the railroad magnate, has given fifty thousand dollars to the University of Pennsylvania and the same amount to Jefferson Medical College.

THE CLEANLINESS OF ELECTRODES.—In the *New York Medical Journal* for June 1881, Dr. Frank P. Foster calls attention to the general neglect of cleanliness in the matter of electrodes, and remarks that cleanliness may be secured by simply providing separate coverings for use with each patient, and by choosing electrodes so fashioned that the coverings may easily be removed from them, and others applied. The coverings that are used with any particular patient may be kept in an envelope, or other convenient receptacle, upon which the patient's name should be written. Felt is an excellent material for covering electrodes, for it readily imbibes water, and keeps wet for a long time. Indeed, so long does it remain moist that in warm weather it is apt to become mouldy within a few hours, unless it is left exposed in a dry place after having been used. Such exposure is advisable also for another reason—if the wet coverings are at once put back into the instrument case, the water that evaporates from them may rust any articles of steel that the case may contain. The author then describes several forms of electrodes that admit of readily changing their coverings, and that may be made by practitioners themselves at a very trifling expense.

SIR ISAAC NEWTON ON THE VALUE OF SLEEP.—The following quaint letter from Sir Isaac Newton to a medical friend has only been recently published:—

'*London, December 15th*, 1716.

'Dear Doctor—He that in ye mine of knowleoge deepest diggeth, hath, like every other miner, ye least breathing time, and must, sometimes at least, come to terr: alt for air. In one of these respiratory intervals I now sit doune to write to you, my friend. You ask me how, with so much study, I manage to retene my health. Ah, my dear doctor, you have a better opinion of your lazy friend than he hath of himself. Morpheous is my best companion; without eight or nine hours of him y'r correspondent is not worth one scavenger's peruke. My pracuzes did at ye first hurt my stomach, but now I eat heartily enow as y' will see when I come down beside you. I have been much amused by ye singular *φενομενα* resulting from bringing of a needle into contact with a piece of amber or resin fricated on silke clothe. Ye flame putteth me in mind of sheet lightning on a small—how very small—scale. But I shall in my epistles abjure Philosophy whereof when I come down to Sakly I'll give you enow. I began to scrawl at 5 mins fr'm 9 of ye cl'k, and have in writing consumd 10 mins. My Ld. Somerset is announced.

'Farewell, Gd bless you and help y'r sincere friend,

'(Signed) ISAAC NEWTON.

'To Dr. Law, Suffolk.'

LADY MEDICAL STUDENTS.—The committee of the Gloucester Infirmary have decided that lady students shall be admitted to the practice of the hospital. The question had been previously referred, on application, to the Medical Board, which decided in favour of the admission of ladies. It is decided that at first only two should be admitted at one time to be pupils, and that six months' trial be made to see how these worked. The committee approved the recommendation of the Medical Board.

FRENCH BIOLOGICAL RESEARCH.—Last year, three embryos of the whale, along with a heart and various soft organs of that cetacean (pieces very rarely met with in European collections), were sent to the Paris Museum of Natural History by M. Sven Föyn, proprietor of the whale fishery of Vadsö, on the east coast of Finmark. M. Pouchet has now been charged by the French Government to go to Vadsö and collect natural history objects. The advice-boat Le Coligny is placed at his disposal, two licentiates in science from Lille accompany him, and he will be joined by a biologist from Christiania. The local authorities have been instructed to forward the scheme. The naturalists will investigate the fauna, flora, and rocks on the banks of the Varanger fjord, also the maritime fauna of this fjord, situate at the boundary of influences of the Atlantic and the Glacial Sea. The fauna of fresh waters will also claim attention. Among questions to be more especially studied are the time of maturation and hatching of the ova in marine species, and the influence of a permanent day of two months on the daily periodic activity of certain animal and plant species.

Apollinaris

EXTRACTS FROM RECENT HOSPITAL REPORTS.

Charing Cross Hospital, W.C.: *July 9th*, 1880.

As regards the use of Apollinaris water in this Hospital, I can only give my own experience. The class of cases for which the water is specially adapted as a remedial agent, seldom makes its way into our Hospitals, and my experience has, consequently, been entirely limited to its use as a dietetic. I have long been accustomed to use milk and soda water as food and drink in many cases where digestion is feeble, and the stomach irritable, but practically, I have found that in private cases where the mixture was made at bedtime to last for use throughout the night until morning, it soon became unpalatable. This is much more likely to occur in the crowded wards of a Hospital than in a private room, and, accordingly, I set myself to find out by actual experiment the relative values of such a water as Apollinaris and ordinary soda or other artificial water. The trials were carefully conducted; the circumstances being precisely similar; and it was found that with the Apollinaris Natural Mineral Water the milk remained far longer sweet and palatable than with the artificial compound. Moreover, from its constituents, the Apollinaris is likely to be more useful and beneficial in the cases I refer to, than ordinary soda water would be.

(Signed) ALEXANDER SILVER, M.A., M.D.,
Physician, &c., to Charing Cross Hospital.

German Hospital, Dalston: *July 28th*, 1880.

I have been instructed by the Committee of our Hospital to acknowledge the receipt of your letter, addressed to them respecting the result of the use of the Apollinaris water, with which your Company has been kind enough to supply our Hospital now already for some time.

Our Committee have referred the matter to our resident medical officers, and they have been assured by them that the Apollinaris water, as supplied by your Company, has been and is still in use in our wards, and that it is found an agreeable, refreshing, and useful drink for invalids and convalescents. (Signed) A. WALBAUM, D.D.,
Hon. Secretary.

(Translation.) 'The Apollinaris Natural Mineral Water was used during the summer of 1879 at the Royal and Imperial Hospital, "Wieden", in the Medical Department of Drs. Ritter von Eisenstein and Oettinger and in the Surgical Department of Professors Drs. Mosetig and Ritter von Moorhof and of Dr. Kumar.

'From the reports of these gentlemen, the senior physicians of the Hospital, it follows that Apollinaris Water excels other Mineral Waters in purity and agreeable taste, but chiefly in the extraordinary quantity of carbonic acid gas which it contains, and that it thus deserves preference over other mineral waters in cases where the action of Carbonic Acid is indicated.

'The Water has proved itself to be a cooling and refreshing drink in febrile and acute affections, and has been employed with favourable results in cases of catarrhal diseases of the bronchial, digestive, and urinary organs.' (Signed) Dr. LORINSER. 29th December 1879.
Direction des K.-K. Krankenhauses, Wieden, Vienna.

Additional testimony and information may be obtained on application to

THE APOLLINARIS COMPANY, LIMITED,

19, REGENT STREET, LONDON, S.W.

LAC BISMUTHI (SYMES)

Hydrate of Bismuth, possessing in a specially active and high degree the properties of this drug. Dose 3j to 3ij.

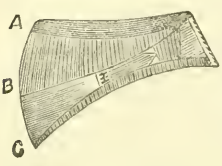
LAC BISMUTHI ET CERII (SYMES)

Particularly useful in Sickness during Pregnancy. Dose 3j to 3ij.

Originated and Prepared by **SYMES & CO., Manufacturing Chemists, Liverpool.**

SALMON'S ABDOMINAL BELT,

In Silk Elastic, and Thread ditto, from 17s. to 50s.



The Belt is light in texture, and affords a more lifting support than any hitherto made, completely supporting the lower part of the Abdomen. It is recommended in cases of Obesity, Tumour, Prolapsus Uteri, and during and after Pregnancy.

HENRY R. SALMON,
87, Wimpole St., Cavendish Sq., London, W.
(corner of Wigmore St.)

SALMON'S OBSTETRIC BINDER,

For immediate use after delivery. 6s. 6d.; by post, 6s. 10d.

The Binder is a substitute for the towel generally used immediately after labour. It is made of strong linen, and dispenses with the usual pinning. The advantages of the Binder are facility of application, combined with comfort and greater efficiency. Measurement required, ordinary size of the waist.

HENRY R. SALMON,
Wimpole Street, Cavendish Square, London, W.
(corner of Wigmore Street).

SECONDHAND SURGICAL INSTRUMENTS,

BY ALL THE BEST MAKERS, AT GREATLY REDUCED PRICES.

WALTER LAWLEY'S NEW GENERAL PRACTITIONER'S POCKET CASE, as noticed by the *British Medical Journal* November 13th, 1880, and the *Lancet*, April 9th, 1881. Price £6 10s.

SECONDHAND MICROSCOPES. SECONDHAND SCIENTIFIC INSTRUMENTS.
SECONDHAND PHOTOGRAPHIC APPARATUS. SECONDHAND RACE GLASSES.
Illustrated Catalogues, three stamps each.

WALTER LAWLEY, 78, Farringdon Street, Ludgate Circus, London.

A FIRST AWARD FOR GENERAL EXCELLENCE

HAS BEEN GIVEN TO

THE DENTAL MANUFACTURING COMPANY, LIMITED,

AT THE INTERNATIONAL MEDICAL AND SANITARY EXHIBITION, SOUTH KENSINGTON.
IN COMPETITION WITH ALL THE LEADING DENTAL HOUSES.

The Company's Exhibit consisted almost entirely of Goods of their own Manufacture, comprising—**Mineral Teeth, Forceps, Pluggers, Excavators, and Burs; Rubbers, Fossiline, Vulcanizers, Lathes, Operating Brackets, Saliva Ejectors, etc., etc.**

LIEBIG COMPANY'S

EXTRACT OF MEAT

An invaluable and palatable tonic for Invalids.
Peculiarly efficacious in all cases of debility and weak digestion.
*** In use in most households throughout the kingdom.
Ask for Liebig COMPANY'S Extract, and see that no other is substituted for it.

CAUTION.—Numerous inferior and low-priced substitutes being in the market (sometimes accompanied by misleading analyses) purchasers must insist on having the Company's Extract, which for flavour and clearness is pronounced by all competent authorities to be the best.

N.B.—Genuine ONLY with fac-simile of Baron Liebig's Signature, in Blue Ink, across Label.

SYR. HYPOPHOS. CO., FELLOWS.

Contains **THE ESSENTIAL ELEMENTS** to the Animal Organisation—Potash and Lime;

The **OXIDISING AGENTS**—Iron and Manganese;

The **TONICS**—Quinine and Strychnine;

And the **VITALISING CONSTITUENT**—Phosphorus,

Combined in the form of Syrup, with *slight alkaline reaction.*

IT DIFFERS IN EFFECT FROM ALL OTHERS, being pleasant to taste, acceptable to the stomach, and harmless under prolonged use.

IT HAS SUSTAINED A HIGH REPUTATION in America for efficiency in the treatment of Pulmonary Tuberculosis, Chronic Bronchitis, and other affections of the respiratory organs, and is employed also in various nervous and debilitating diseases with success.

ITS CURATIVE PROPERTIES are largely attributable to Stimulant, Tonic, and Nutritive qualities, whereby the various organic functions are recruited.

ITS ACTION IS PROMPT, stimulating the appetite and the digestion, it promotes assimilation, and enters directly into the circulation with the food products.

The prescribed dose produces a feeling of buoyancy to the intellect, removing depression or melancholy, and hence is of great value in the treatment of **mental and nervous affections.**

From its exerting a double tonic effect and influencing a healthy flow of the secretions, its use is indicated in a wide range of diseases.

Price, Small 4s., Large 7s.

Prepared by JAMES J. FELLOWS, Chemist.

Principal Offices:

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Depot:—7, SNOW HILL, HOLBORN VIADUCT, LONDON.

Circulars sent to physicians on application.

CAUTION.—'HYPOPHOSPHITES.'

In Europe, as in America, the subscriber finds himself obliged to combat imitations of his Syrup of Hypophosphites, and offset the evils of imposture by warning medical men against fraud. From time to time substitutes have appeared, in dress or name closely resembling 'Fellows' Hypophosphites', and recommended as 'identical with' or 'just as good'. These, palmed off for a time on the unsuspecting by some Apothecary or Doctor, cause disappointment and frequently endanger life.

To prevent errors, prescriptions should only be entrusted to respectable houses, as no respectable Chemist will make or vend an imitation article. The 'trustworthy' *only* are respectable; he who seeks to profit through the reputation, the industry, or the property of another is *not trustworthy*; if such be an Apothecary, his drugs, chemicals, medicines, and above all his dispensing, should not be trusted.

'Fellows' Hypophosphites' was invented by the subscriber, and has been thoroughly tested for over fifteen years. Enormous expenditure and a high character have won for it a world-wide distribution, which it is our determination to maintain, by a loyal adherence to characteristic uniformity, care and fidelity of its manufacture. As large a margin of profit is allowed as is consistent with its costly components, and a liberal spirit is ever extended to the trade. Yet there are persons calling themselves 'brother Chemists', who unblushingly and impertinently *copy our prescription*, and advertise it as their property, thus sacrificing their respectability in the hope of obtaining more profit, while their product falls far short of the original.

The names of these persons are withheld for the present, in the hope that no further exposure will be necessary.

Imposition may be effectually prevented by ordering the Syrup in the original bottle.

JAMES I. FELLOWS, SNOW HILL, LONDON.

P.S.—SAFEGUARDS AGAINST SUBSTITUTION.—The Fellows' Hypophosphites is dispensed in ½ lb. and 1 lb. bottles—the address, Fellows & Co., St. John, N.B., blown on—the name J. J. Fellows, St. John, N.B., in watermark upon the wrapper; it is hermetically corked, and sealed with crimson gelatine, and covered by a metallic capsule: is heavy, slightly alkaline, pleasantly bitter taste, and deposits a flocculent brown precipitate of Hypophosphite of Manganese when left undisturbed for forty-eight hours. NOTE—Though this precipitate mars the appearance, its presence has been found imperative to its full remedial effect.

A TRIUMPH OF PHARMACY.

COD-LIVER OIL RENDERED AGREEABLE AND DOUBLY EFFICACIOUS BY

MACKENZIE'S COMPOUND COD-LIVER OIL EMULSION.

Composed of Select Cod-Liver Oil, Pepsine, and Hypophosphite of Lime.

Can be taken with pleasure by Invalids and Children. Has received the HIGHEST APPROVAL and *recommendation of Leading Members of the Medical Profession*, after an extensive trial in Private Practice and in the large Medical Hospitals. As a remedy for Consumption, Wasting Diseases, Bronchitis, and Affections of the Chest generally, and for imparting muscular strength, with a healthy appearance, it is unsurpassed—the great objection to the use of Cod-liver Oil in such cases being entirely overcome. In Bottles at 2s., 3s. 6d., and 6s. each. To be had of all Chemists. Prepared by

MACKENZIE & CO., Operative Chemists, 45, Forrest Road, Edinburgh, who originally introduced this preparation.

THE BEST AND CHEAPEST. **FIRST ESTABLISHED 1825.**

NEAVE'S FOOD FOR INFANTS AND INVALIDS.

LANCET.—'Carefully prepared and highly nutritious.'

BRITISH MEDICAL JOURNAL.—'Well adapted for children, aged people, and invalids.'

IN ONE-POUND ONE SHILLING CANISTERS.

SOLD EVERYWHERE. WHOLESALE OF THE MANUFACTURERS.

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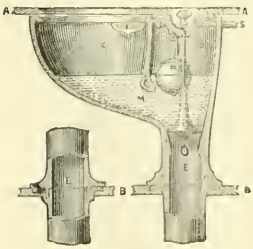
PEARSON'S PATENT

'TWIN-BASIN' WATER-CLOSET,



Made in one piece of pure White Earthenware.

FOR SIMPLICITY,
FOR CLEANLINESS,
AND FOR ABSOLUTE SECURITY AGAINST SEWER GAS.

FOR DIAGRAMS AND LIST OF PRICES, APPLY TO

CAPPER, SON, AND CO.,

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LIEBIG'S EXTRACT OF MEAT
AND MALT WINE (COLEMAN'S).

A DELICIOUS BEVERAGE AND TONIC,

Made from Port Wine, Liebig's Extract of Meat, and Extract of Malt: Nutritious, Strengthening, Stimulating, Flesh-forming, Health Restoring, Suitable for the Robust in Health, as well as the Invalid. Strongly recommended by the Medical Faculty. An Immediate Benefit is experienced after taking it; the Frame is Invigorated, and no ill effects follow.

LIEBIG'S EXTRACT OF MEAT AND MALT WINE (COLEMAN'S).

TESTIMONIALS.

Thorpe Hamlet, Norwich, February 23rd, 1881.

SIR,—A short time since I was induced by the novelty of the title to send for a bottle of your Liebig's Extract of Meat and Malt Wine. I was perfectly acquainted with the value of the *Extractum Carnis*, and not quite a stranger to the invigorating and fortifying properties of Malt Wine, and, therefore, felt a natural curiosity to test them when combined. Men who work hard, as I do, not muscular hard work, but that which is quite as exhausting, viz., brain work, very often experience the need of, and have sometimes an almost irresistible craving for, a 'pick me up'; and very often the panacea for a time for lassitude, and that state of mind which renders work irksome, are alcoholic stimulants, the use of which must sooner or later end disastrously. The man who can furnish a remedy sure, certain, and harmless, for the lassitude which follows constant brain work, is a benefactor of his species, and may be said to have added many years of usefulness to the lives of useful men. Your extract, if a success, and when more generally known, will be used by all toilers of the mind.

Yours faithfully, O. D. RAY.

LIEBIG'S EXTRACT OF MEAT AND MALT WINE (COLEMAN'S).

Queen's Crescent, Haverstock Hill, March 5th, 1881.

DEAR SIR,—Some time since, being greatly fatigued with over-work and long hours at business, my health (being naturally delicate) became very indifferent. I lost all energy, strength, and appetite, and was so weak as to be scarcely able to walk. As you are aware, I sent for a dozen of your Extract of Meat and Malt Wine, which, in a few days, pulled me up marvellously. Three or four glasses of it daily have quite altered and restored me to better health than ever, 'without the assistance of a doctor'. I am now giving it to my son twelve years of age, whom we have always thought consumptive, and from a puny ailing boy he seems to be fast growing into a strong healthy lad. Enclosed you have a cheque. Please send me two dozen of the 'Extract'. With thanks for your prompt attention to my last.

I am, Sir, yours truly, GEORGE A. TYLER.

LIEBIG'S EXTRACT OF MEAT AND MALT WINE (COLEMAN'S).

Granspound, February 25th, 1881.

Mrs. Coulson thanks Mr. Coleman for the book and stamps, and she has no doubt but that 'the tonic' is a good one. Mrs. C. encloses twelve stamps for basket.

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Vicarage, Kingsbridge, Devon, January 25th, 1881.

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Mr. Coleman, Norwich. Yours faithfully, A. N. KINGSTON.

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